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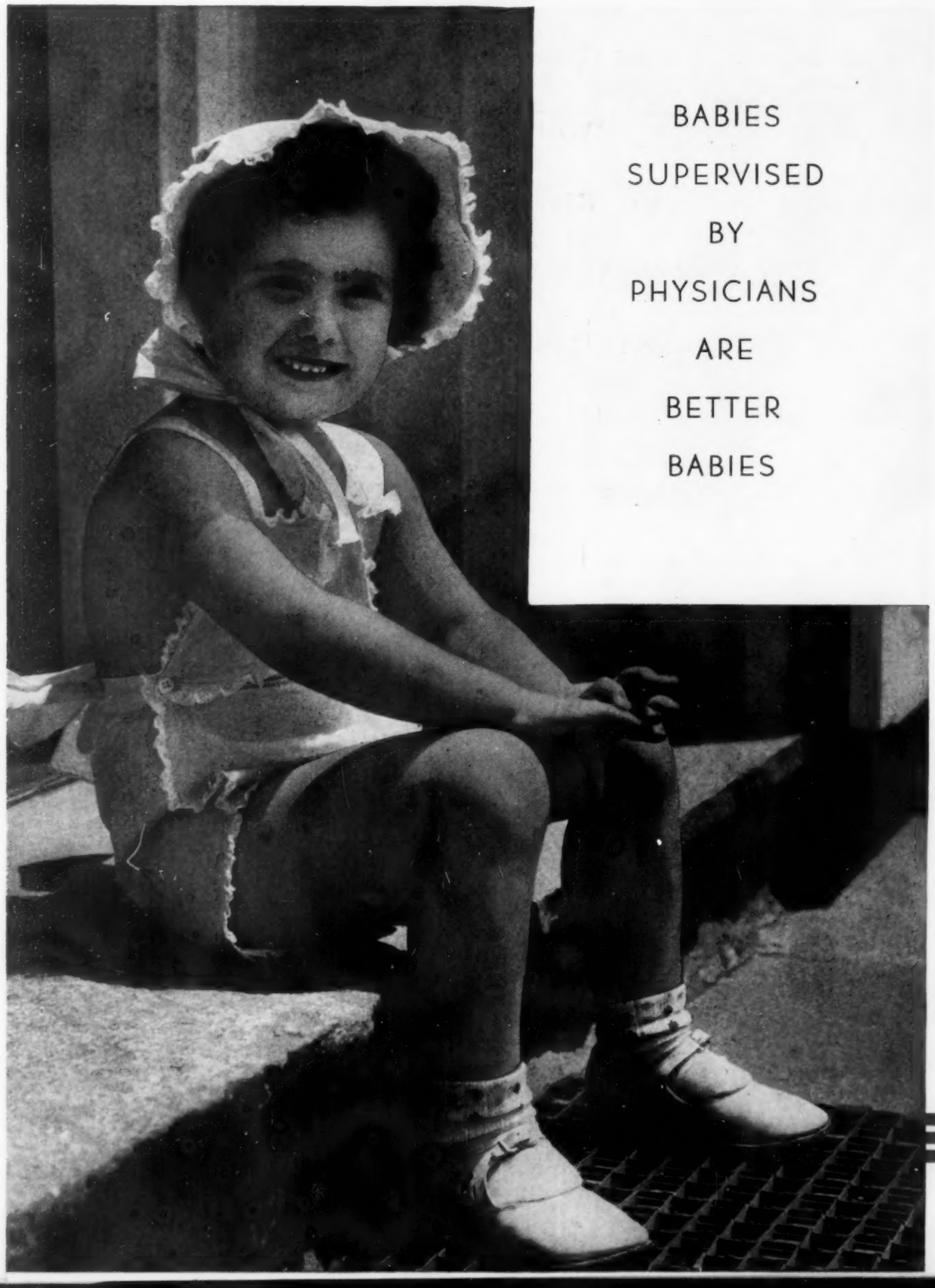

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. . . . . ***only $18.75 per month for 10 years*** ★

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hygeia

THE HEALTH MAGAZINE
535 N. DEARBORN ST., CHICAGO 10, ILL.

Published and copyrighted, 1945, by the American Medical Association. Edited by Morris Fishbein, M.D.

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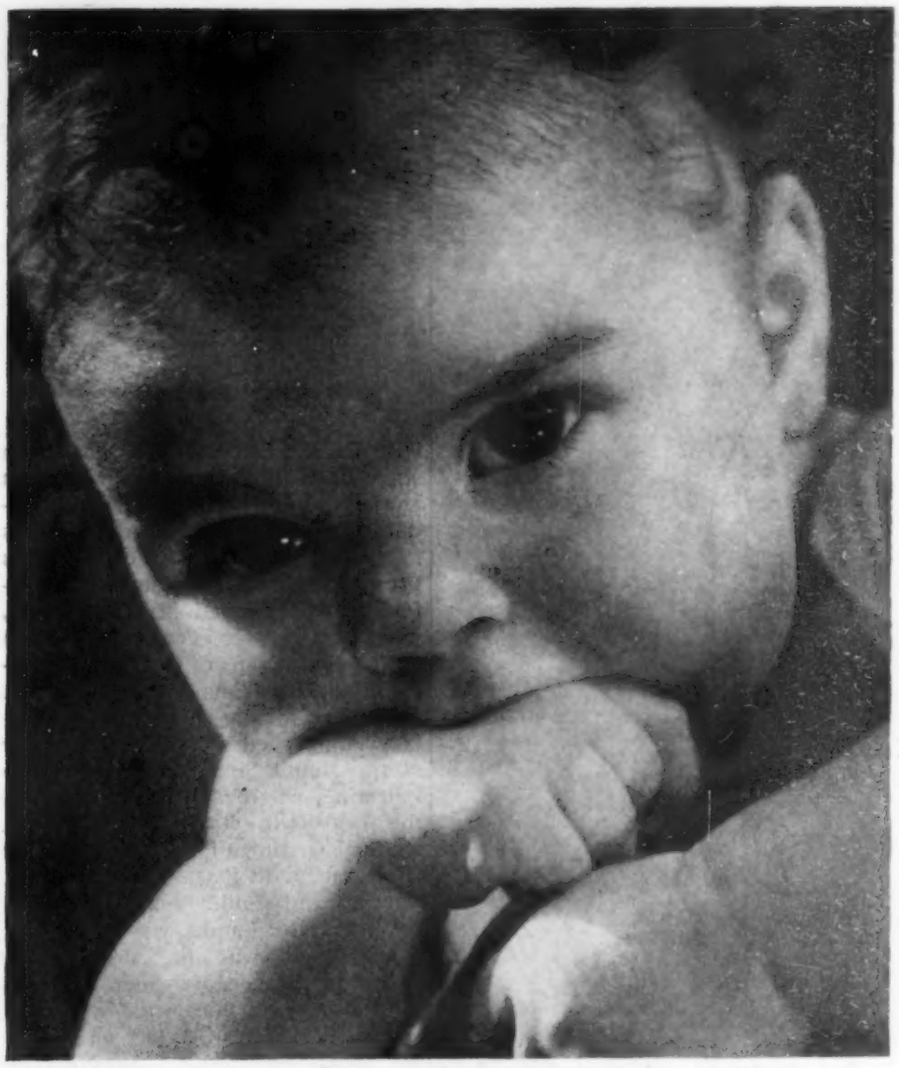
HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago 10, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 23, Number 2. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy, submitted. All rights reserved.

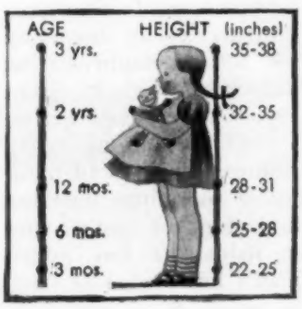
I picture her grown beautifully straight...



carrying herself proudly... lithe and straight-limbed
and can hear others say, "There is a woman!"
This is my hope, my dream for her...

I WILL FULFILL THIS DREAM... I will do everything within my power
to help her build a well-shaped head,
a fine, full chest, a strong back and straight legs.

A CRITICAL ELEMENT NEEDED. To help your baby achieve the straight body that is your hope, give her a critical element she needs now. This element is Vitamin D. Given regularly, Squibb Cod Liver Oil supplies Vitamin D needed to help convert vital food minerals into sound bones and teeth. It also provides your baby with important Vitamin A. Start now with Squibb's.



You can help your baby beat these averages! Medical authorities say that with proper care "average" heights can be exceeded. One vital part of this care is to supply your baby regularly with Vitamins A and D. Every day, give her Squibb Cod Liver Oil... a rich source of both factors!

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The refreshingly cool, comfortable, light weight and flexible

MODART MATERNITY SASH

gives you freedom and protection . . . before and after baby's arrival.

BACK VIEW

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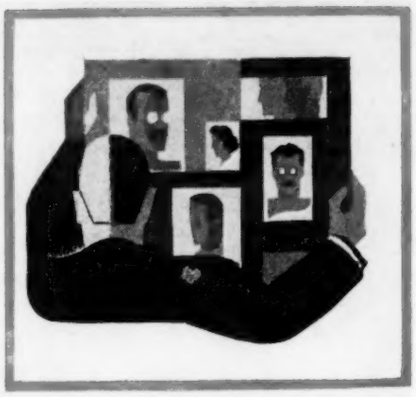
Our brochure "BABY COMING?" giving the details of this wonderful garment and the name of your local store where you may see it will be sent promptly . . . send your name and address on a card.

MODART
WHERE STYLE BEGINS
by LE MONDE
LE MONDE CORSET CO. SAGINAW, MICH.



WHO'S WHO IN hygeia

DR. E. M. BLUESTONE has been since 1928 director of New York's Montefiore Hospital, the largest voluntary hospital for chronic diseases in existence. Before he came to his present position, Dr. Bluestone's profession had carried him to France, where he spent a year and a half in the Medical Corps of the A. E. F. during the last war, back to his home in New York, where he practiced medicine and served as assistant director of the Mount Sinai Hospital, and to Palestine, where in 1925 he assumed the post of director of the Hadassah Medical Organization. The fact that Hadassah, with its far flung medical, nursing and public health activities in the Holy Land, was a pioneer organization was the determining factor in his acceptance of this distant post, and his three years of sound administration left an indelible mark on hospital progress in that country. In spite of the time consumed by the many committees and boards on which he serves, Dr. Bluestone still manages to indulge his hobby of writing light verse and articles such as the one on medical social service in this month's HYGEIA.

As a member of the New York state senate and chairman of the New York State Joint Legislative Committee on Nutrition, THOMAS C. DESMOND speaks with the voice of authority on the subject of nutrition education. His lively interest in matters of health, safety and the public good is manifested by the fact that among the measures he has sponsored in the New York legislature are bills for: the eight-hour day for state employees; premarital medical examinations; slaughterhouse inspection; highway safety; and low cost housing. A successful engineer until his retirement in 1930, Mr. Desmond is also an amateur astronomer, and has been a world traveler.

ZOE REEVES says that her article, "Science Triumphs Over the 'Lost Cord,'" results from "an interest in people who are without means of vocal communication," and is "a layman's view of some of the work being done at research laboratories and hospitals in collaboration with skilled laryngologists throughout the United States to give assistance to this group."

BERNARD HIRSHBERG, who writes the Test for Parents on page 144, can smile at mention of the first World War because, on his return from France, where he served with the 303rd Field Artillery, he received a special citation from Washington—not for conspicuous gallantry, but for having been a regular countributor of poetry to *Stars and Stripes*, the A. E. F. weekly newspaper. Long a teacher and social worker, Mr. Hirshberg believes that both teacher and parent should keep in mind the line from Emerson, "He who has more soul than I, masters me."

ANTON J. CARLSON can be considered, by any standard, one of the world's great contemporary scientists in the field of physiology. More than that, he is also an astute observer of social trends and a student of a phenomenon which lesser scientists are likely to overlook—human nature. Born in Sweden, Dr. Carlson came to the United States as a boy of 16. His undergraduate training and master's degree were completed at Augustana College, and he took the degree of doctor of philosophy at Leland Stanford University in California, remaining there for another year as an assistant in physiology. The next year was spent at Carnegie Institute, and in 1904 he went to the University of Chicago to teach there for forty years. He is remembered by thousands who have been his students as an inspiring teacher and an uncompromising scientist. By his research in circulation, the heart and heart nerves, lymph and lymph formations, saliva and its secretion, thyroids and parathyroids, gastric secretions, metabolism, the physiology of hunger and many other fields, he has added greatly to man's knowledge of man.

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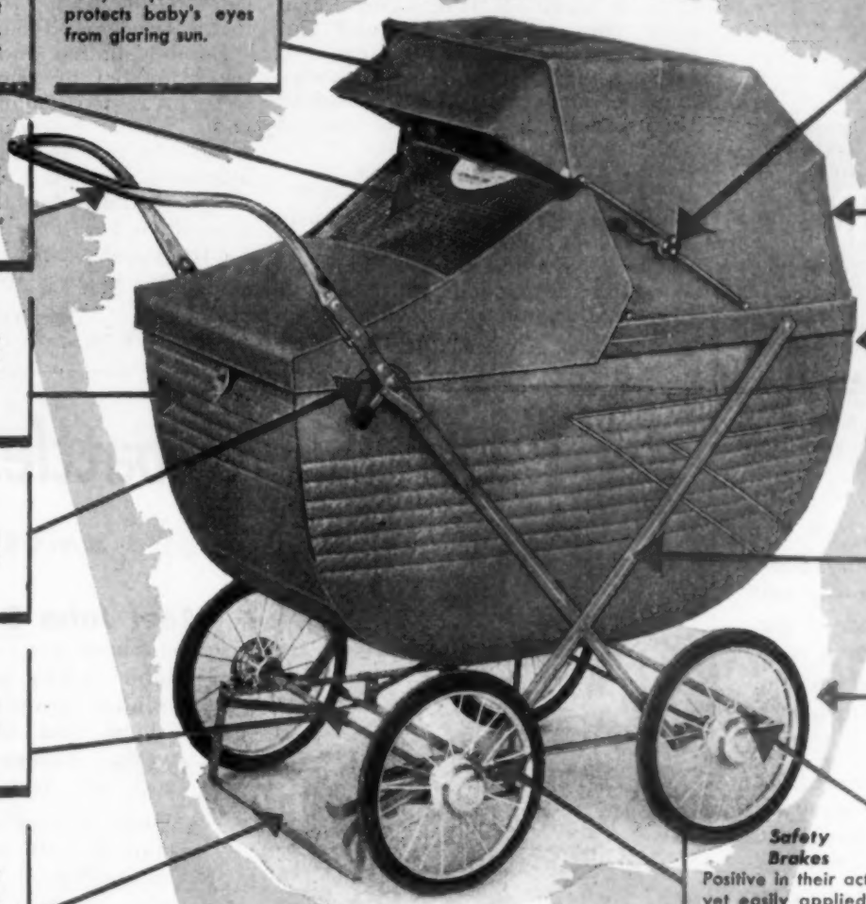
Yes, they're all in the new patented KROLL KAB!



Ultra-Violet Sun Shield
Transmits safe amount of ultra-violet sunshine. Also gives baby draft protection.

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Fully adjustable—protects baby's eyes from glaring sun.

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A Kroll safety feature that saves many a precious finger nail.

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Like floating on a cloud—gives baby a smooth gliding ride.

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Soft as soft can be—*Neslings* fold-over—baby's first shirt—is *knit* for special comfort. Made of the softest, finest yarns, with a non-irritating edge trim, and smooth, flat seams—it won't rub baby's tender skin.

There's no poking of ties through holes . . . ties fasten easily, are firmly anchored. The double-thickness front provides extra warmth for baby.

Because *Neslings* are *knitted** they wash easily, require no ironing . . . last longer. (Tie-Way Shirts—sizes 1 to 6 for babies to 2 years; Slip-Over Shirts are for older brother or sister).

***Neslings* Training Pantie** is easy to slip on and off. Amazingly absorbent, it keeps baby dry and comfortable longer. Softer—it won't chafe baby's tender skin.

*Knitted—of course—for greater comfort and longer wear.

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MINNEAPOLIS 11, MINNESOTA

LETTERS FROM READERS

From Wartorn Malta

To the Editor:

My ardent desire to settle in the U. S. A., compels me to write to you in the hope of obtaining a suitable job in your country. I, therefore, intend to advertise in your popular paper an appeal for work which would run as follows (subject to your kind modification if necessary):

"An appeal from the gallant Isle of Malta, G. C.—A Maltese young man from the unconquerable and undaunted Island of Malta wishes to settle in the U. S. A. Has been twice bombed out and rendered homeless. His age is 30 years and is a qualified Sanitary Inspector employed in the Health Department of the Government of Malta. Anxious to quit his job if a suitable one is graciously offered him. Write to Mr. J. Hifsud Bonnici, 31 Howard Street, Sliema, Malta."

I beg to enclose herewith an addressed envelope and an International Coupon in the hope of your being kind enough to give me an early reply stating your terms for the above-mentioned advertisement.

Sliema, Malta J. HIFSUD BONNICI

HYGEIA *does not carry classified advertising. Moreover, it would be contrary to immigration regulations for any employer to enter into an employment contract with a citizen of a foreign country. Because it indicates the interest in health education even in faraway, war torn Malta, however,* HYGEIA *is glad to publish Mr. Bonnici's letter.*—ED.

Music

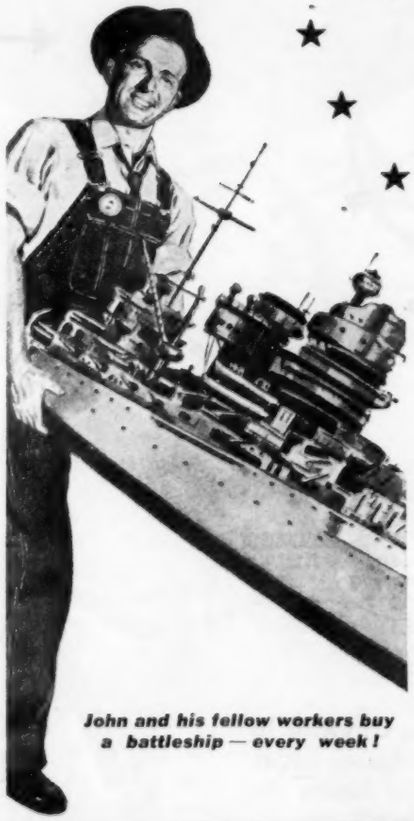
To the Editor:

There have been many outstanding articles in HYGEIA, but to my mind one of the most outstanding is the article entitled "Music in the Treatment of the Sick," which appeared in the December issue.

Having studied and taught music for a number of years, this article strikes a particularly responsive chord in me. Certainly no one will refute the statement that music has a great power over the emotions of human beings. I believe there is a great field for the use of music in the treatment of the sick, particularly those mental cases which arise as a result of war.

MRS. O. D. DAVENPORT
Phoenix, Ariz.

HELP buy a battleship!



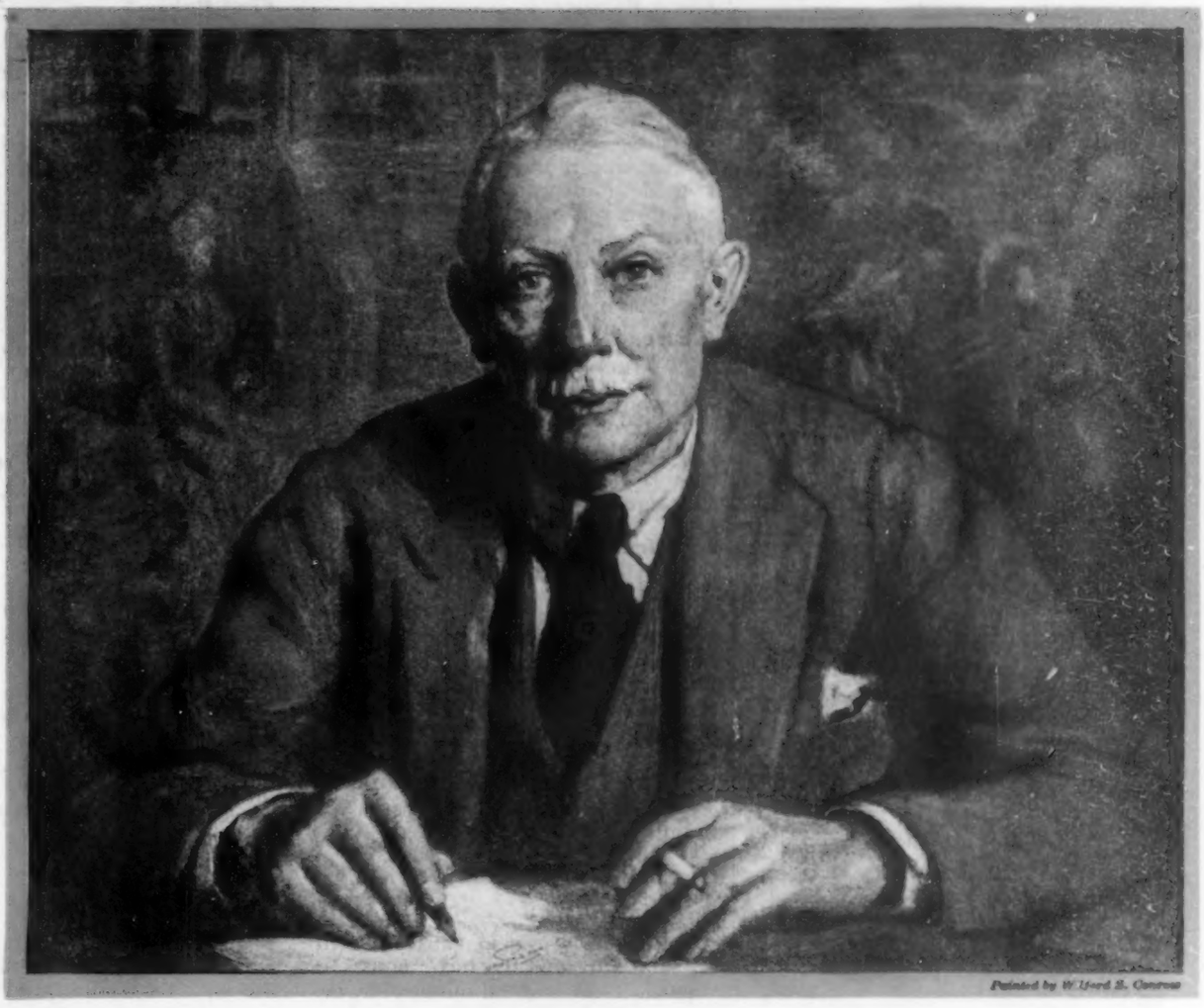
John and his fellow workers buy a battleship — every week!

★ ★ ★ ★ Meet John S—

John works at an electronics plant on Long Island, and makes $85 a week. Almost 16% of it goes into War Bonds.

John is typical of more than 27 million Americans on the Payroll Savings Plan who, every single month, put a half a BILLION dollars into War Bonds. That's enough to buy one of those hundred-million-dollar battleships every week, with enough money for an aircraft carrier and three or four cruisers left over.

You've Backed the Attack— 6th WAR LOAN Now Speed the Victory!



Painted by Willard S. Conrow

We've come a long, long way in pneumonia

"I can remember when we fearfully awaited the 'crisis' and pneumonia took about 125,000 lives a year. Since the use of 'sulfa' drugs which conquer most of the 32 types of pneumococcus pneumonia, deaths have been reduced by 50%. And with penicillin there will be even less. Notwithstanding, 500,000 people get pneumonia every year, and that's too many.

Simple precautions that *you* can take will help make them fewer." Your doctor

TO HELP YOUR PHYSICIAN REMOVE PNEUMONIA AS A MAJOR HAZARD:

1. **Avoid fatigue and chilling**—If you are overtired, or if your resistance is low, watch out for pneumonia. Take care of common colds, sore throats, or grippe, as pneumonia often follows them.
2. **Call your doctor at once**— particularly if you have chills, fever, a cough, sharp chest pains, or if your sputum is rust-colored. Don't put off calling him because you think he is too busy.
3. **Follow his instructions faithfully**—The treatment prescribed by your doctor will help you get well. When you are over the acute phase of pneumonia, give yourself plenty of time for recovery.

Upjohn
KALAMAZOO, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

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"...PLENTY of extra features like POLL-PARROTS!"

No wonder youngsters consider Poll-Parrots a standard of comparison. It's the extra added features that count...in these famous shoes. Poll-Parrots are made over America's widest range of scientifically designed lasts. There's *extra care* in the selection of best available materials, *extra fine craftsmanship* and attention to important details. In short, *Poll-Parrots are your assurance of extra value.*

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SHOES FOR BOYS AND GIRLS

Chain Reading

To the Editor:

After I read my copy of HYGEIA and send it to my daughter, she reads it and sends it on to my other daughter who reads it and sends it to her daughter. We are covering considerable ground with one subscription; it may be cutting your income, but we feel that it is helping the war.

MRS. H. E. PHELPS

Chittenango, N. Y.

Pleased

To the Editor:

I want to tell how pleased I am with HYGEIA and also the book on Popular Health Questions.

JOSEPH MOLZER

Cleveland, Ohio

In Chinese Text

To the Editor:

Ten years ago when I was in China teaching high school girls I had no good textbook on hygiene and first aid and found HYGEIA, which had been sent to the station at Tengheien, Shantung, for many years, of great help in the writing of a small hygiene book in Chinese.

ANNE HOUSTON PATTERSON

Staunton, Va.

Bringing Up a Reader

To the Editor:

I am a very recent subscriber to HYGEIA but already have come to regard it as a good counselor on matters of health, a subject so foreign to many of us. The interesting and timely article by C. W. Wyckoff, "Bringing up Parents," in the July issue is a good subject; I hope we can have more material in the near future along these same lines. Like Topsy, I just grew, but I really need "bringing up."

MRS. H. S. DAHN

Westernville, N. Y.

Classwork

To the Editor:

Please send HYGEIA to Metz School beginning with the September issue and continuing through April. I plan to use your magazine regularly in daily class work, since I am offering Vocational Home Economics and use HYGEIA as reference reading.

PANSY STOUT

Metz, Ind.

First Baby

To the Editor:

I have read HYGEIA articles often in my doctor's office and would like to be a regular subscriber. I am now expecting a baby, the first, and am sure that your magazine will help me very much.

MRS. JOHN ALBERTI

Seattle, Wash.

Home Nursing Teachers

To the Editor:

You will be happy to know that the many nurses who teach Red Cross Home Nursing get much of their information from HYGEIA. Many of the nurses have subscribed to it individually and the students to whom it is assigned read it with pleasure and profit.

HAZEL HUTCHESON

Home Nursing Service
American Red Cross

Student

To the Editor:

I am a student at the University of Southern California and the collateral reading for my course in health is contained in HYGEIA. I have found it to be of great value as a dependable reference.

JAMES R. KORB

Burbank, Calif.

Cover to Cover

To the Editor:

I can say sincerely that HYGEIA is the only magazine that I read from cover to cover every month.

MISS MARY M. BOWE

Philadelphia, Pa.

Helpful to Family

To the Editor:

I wish to say that I enjoy HYGEIA immensely and find it very helpful in bringing up my family and increasing my knowledge of diseases.

MRS. DONALD BOUTELLE

Kensett, Ia.

Student Nurse

To the Editor:

I am a student nurse at the Florida State Hospital and have been assigned HYGEIA for a report in a Professional Adjustment class. I have read your magazine and find it very interesting.

VERNICE JOHNSON

Chattahoochee, Fla.

HOSPITAL RECORDS

The value of hospital records from several different standpoints was pointed out by Miss Nellie Gorgas, superintendent of St. Barnabas Hospital in Minneapolis, at a recent conference of the American Hospital Association. Records, Miss Gorgas emphasized, must be of value to three groups—the patients, the hospital and the physicians. They must be accurate and complete for purposes of: the prosecution of medical research through availability of case records; the need for legal protection; the justification of diagnosis and treatment; and, while physicians are leaving civilian practice to join the armed services, the instruction of the new doctor and the information of the original physician when he returns to his practice.

How true it is that "woman's work is never done"... especially if you are the mother of a small baby. With so much to do, is it any wonder you're grateful when your baby smiles and plays contentedly for hours without demanding attention? Chafed and irritated skin is a frequent source of discomfort to small babies. It's a wise mother who applies 'Borofax' after every change of diaper and following baby's daily bath to help prevent these skin irritations. 'Borofax' is a soothing, protective, water-resistant ointment with 10 per cent of boric acid in a bland emollient base containing lanoline. It helps counteract excessive drying of the skin and is often prescribed by physicians to relieve irritation caused by wet diapers. Try 'Borofax' today. Available at all drug stores in tubes of ¾ oz.—25c, 1¾ oz.—50c. Easy to use; no spilling; a little goes a long way.

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Time to Check Chapped Skin

Cold, Brisk Winds during winter months may chap your skin and make it dry and sensitive. Then you will want to try delightfully soothing Marcelle creams and lotions to cleanse and lubricate your skin and help restore oils lost through exposure.

Dry Heat Indoors may also tend to make your skin taut and inclined to dryness. Use Marcelle hypo-allergenic Cosmetics formulated especially for dry, sensitive skins. They are widely prescribed by physicians.

Marcelle hypo-allergenic Cosmetics are accepted for advertising in publications of the American Medical Association.

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1741 N. Western Ave., Chicago 47, Ill.
Please send me the six sample beauty aids. I enclose 10c.
Blonde..... Brunette..... Auburn.....
NAME..... H-2-45
ADDRESS.....

DRIED FRUITS

In the November issue of HYGEIA an article entitled "Embalmed Food" discussed the use of chemicals used as preservatives of food. In this article the statement was made that certain chemicals are used to give foods an appearance of higher quality and that this is especially true in the case of sulfured fruits.

To a certain extent it is true that treatment of such dried fruits as apricots and peaches with sulfur dioxide gives these foods an appearance of a higher quality than they would otherwise exhibit. The sulfur dioxide prevents the occurrence of darkening which ordinarily takes place as a fruit is sun-dried and stored over a period of time. This darkened color, which may reach almost black, is prevented by treatment of the fruit with sulfur dioxide before drying.

In addition to maintaining the normal light color of the fruit, sulfur dioxide helps to preserve in large part the natural vitamin A and C content of the fruits which would otherwise be destroyed. In this respect the use of sulfur dioxide is beneficial to the consumer. The vitamin B_1 of the fruit is destroyed by having sulfur dioxide present. This is not so important, however, because fruits ordinarily contain only small quantities of this vitamin.

The presence of sulfur dioxide in foods causes little danger to the health of the consumer. No toxic effect from this chemical, when consumed in the quantities which might come from foods treated with sulfur dioxide, has ever been shown. Small quantities of this substance are permitted by the government in molasses and cane syrup products. In this case sulfur dioxide does not represent an addition to a food, but is the residue of sulfur left after processing which need not be completely removed, since it is considered harmless to the consumer in the amount present. The Council on Foods and Nutrition of the American Medical Association has granted its Seal of Acceptance to foods of this type containing small amounts of sulfur dioxide. As further evidence of the lack of harm of this sulfur compound it can be stated that the Army uses sulfur dioxide as a temporary preservative, as well as for maintaining the natural color of certain fruits and vegetables in fresh form which are supplied to its forces outside of this country.

It may be said that treatment of dried fruits with sulfur dioxide does give an appearance of quality better than would exist if sulfuring were not used. The nutritional quality of food so treated is improved to the extent that destruction of vitamins A and C in the fruits is reduced to a minimum. These advantages of attractiveness and natural vitamin content are gained without harmful effect on the health of the consumer.

—THE EDITOR.

The Pepper Report on the Nation's Health

—An Editorial by MORRIS FISHBEIN

THE Senate Committee on Education and Labor appointed some time ago a Subcommittee on Wartime Health and Education which, under the chairmanship of Senator Claude Pepper of Florida, has been conducting hearings. The report of this Committee brings out extremely interesting facts regarding the nation's health; it also makes definite proposals for legislative action toward improvement.

Much has been said in HYGEIA and elsewhere about the number of young men rejected following examinations under the Selective Service System. About 40 per cent of the 22,000,000 men of military age in the country were found unfit for general military duty. In class 4-F there were 4,500,000 men who would be considered unavailable because of physical and mental defects. The report points out that "it would be wrong to conclude from the Selective Service rejection figures that we are a nation of weaklings." The officials of Selective Service say that at least one sixth of the defects for which men were rejected could be remedied. This applies particularly to dental defects, visual defects, venereal disease and ruptures.

The Committee is convinced that a great deal of illness and disability could be avoided if the benefits of modern medical and public health science were made readily available in all sections of the country to all the people. They are not, however, prepared to formulate a complete national health program or to make detailed recommendations concerning all the health problems that remain unsolved. They do point out the need for improved preventive services and facilities, the desirability for extending good water supplies, adequate sewage and rural sanitation. The subcommittee discusses also the importance of child health and mental hygiene as part of a national program for improved health.

In its consideration of the distribution of medical facilities the Pepper Subcommittee points out that some areas of the country are not as well supplied with hospitals as are others. Whereas the national ratio of beds in general hospitals was 3.4 per 1,000 population for the nation as a whole in the years just before the war, the ratios in many Southern and Southwestern states were less than half this figure. There are also, of course, great inequalities in the equipment and services rendered by hospitals. Moreover, the lack of hospital facilities is paralleled by inequalities of distribution of doctors, dentists, nurses and other medical personnel. These situations are particularly difficult in rural areas and in communities which have expanded tremendously because of the development of war industries. To meet the situation the Committee offers for consideration a plan proposed by Surgeon General Parran of the United States Public Health Service, who urges the development of a coordinated network of four basic types of medical center facilities—including a small neighborhood or community health center, a rural hospital, a district hospital and a large base hospital. It is proposed that federal grants-in-aid be made to the individual states to aid in the development of such facilities. The grants would be made to both public and voluntary institutions and would be administered through a state agency, preferably the state health department. "Before federal funds could be granted, however," the Committee recommends, "over-all state plans in individual projects should be reviewed and approved by the United States Public Health Service to make sure that they meet certain minimum standards of construction, operation and complete coordinated service."

The report of the Subcommittee also gives special consideration to the question of payment for medical care without coming to any definite conclusion as to just what should be done in this field. It recommends, however, that more adequate provision should be made for medical care of the needy through increased appropriations by local, state and federal governments.

Special hearings were held by the Subcommittee on the subject of medical research. During the war research was coordinated through the Office of Scientific Research and Development and through the National Research Council through its Division of Medical Sciences. The Subcommittee says that "the government cannot and must not take the place of philanthropy and industry in the sponsorship of research. It does feel, however, that the federal government may provide resources for a coordinated attack on medical problems."

A summary of the report makes the following recommendations:

1. Recommends that Federal grants-in-aid to States be authorized now to assist in post-war construction of hospitals, medical centers, and health centers, in accordance with integrated State plans approved by the United States Public Health Service.

2. Recommends that Federal loans and grants be made available to assist in post-war provision of urban sewage and water facilities, rural sanitation and water facilities, and milk pasteurization plants, in communities or areas where such facilities are lacking or inadequate.

3. Urges State and local governments to establish full-time local public health departments in all communities as soon as the needed personnel becomes available. With this aim in view, consideration should be given to rearrangement and consolidation of local health jurisdictions and to amalgamation of existing full- and part-time local health departments with overlapping functions. The Federal Government should increase the amount of its grants to State health departments to the end that complete geographic coverage by full-time local health departments may be achieved and that State and local public health programs may be expanded in accordance with needs.

4. Recommends that the Army consider the feasibility and advisability of expanding its program for induction and rehabilitation of men rejected because of physical and mental defects.

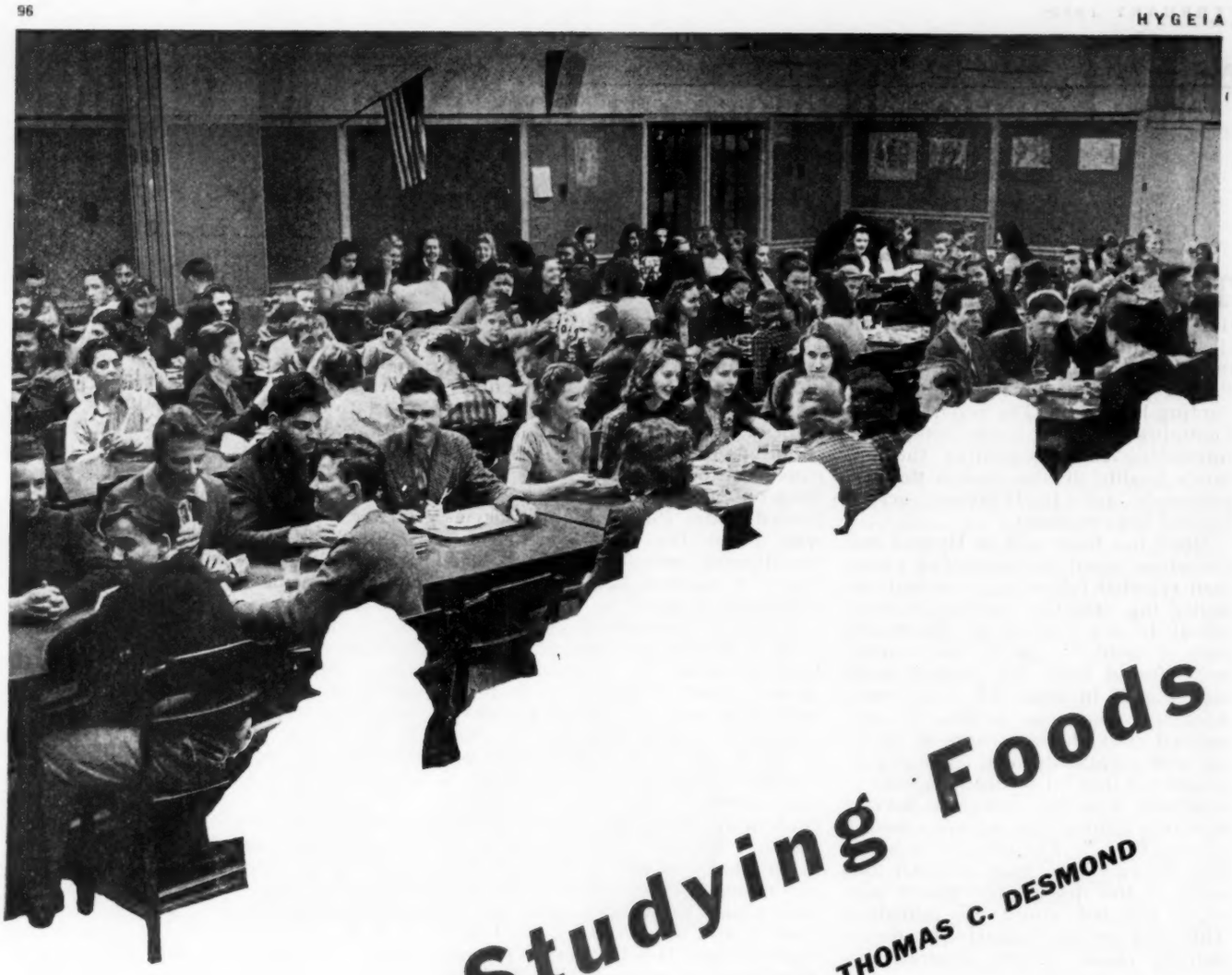
5. Recommends that the medical records of the Selective Service System be preserved and that funds be appropriated for further processing and study of these records.

6. Reports the acute shortage of personnel with training in psychology and psychiatry and the need for immediate steps to increase the output of such personnel with a view to providing child-guidance and mental hygiene clinics on a far wider scale.

7. Recommends that Federal scholarships or loans be made available to assist qualified students desiring medical and dental education; urges that increased enrollment of women in medical and dental schools, and premedical and predental courses, be encouraged in every way possible.

8. Recommends that Federal funds be made available to States for medical care of all recipients of public assistance and that allotment formulas governing distribution of Federal funds to State public assistance programs be made more flexible in order to give more aid to States where needs are greatest.

No doubt the report will receive consideration by the Senate and the Congress in the forthcoming sessions.



Studying Foods in School

By THOMAS C. DESMOND

MEMBERS of the Yorktown Ladies Society have assembled in Mrs. Osborn's living-room. They are enjoying their weekly tea, which usually precedes a round table discussion on some topic of general interest. Mrs. Osborn finishes pouring and passes around her delicious chicken-salad sandwiches. Full of pride, she remarks:

"I always thought I could cook until my little Jimmy started giving me advice."

The ladies were immediately attentive. Mrs. Ford quickly added:

"I'm having the same trouble in my home with my little girl."

"We can all thank the new teacher if we learn how to serve healthier meals," said another member.

Within the past few years this same scene has been enacted all over the country wherever parents have occasion to discuss the latest adventures in the lives of their children.

The reason for this surprising interest of young people in their diets is to be found first in the remarkable scientific advances made in the field of nutrition, and secondly, in the recognition of the importance of this comparatively new science of nutrition by our country's colleges and universities, where young women teachers are trained to impart the functions of an adequate, nutritious diet to our public school children.

Dr. George R. Cowgill, professor of nutrition at Yale University, in an article appearing in a recent issue of the *American Journal of Public Health* describes the progress in nutrition made within the past thirty years. Not many years ago it was believed that any combination of foods furnishing sufficient energy, protein and important minerals like calcium and iron sufficed to nourish the body properly. Today, Dr. Cowgill points out, nutritionists list forty separate items necessary for an adequate diet.

As a result, higher educational institutions have been quick to establish nutrition courses as foremost and basic in their colleges of home economics and other homemaking programs. Prospective teachers are being taught to convey the latest knowledge of a well rounded diet to children old enough to comprehend what they should and should not eat. The results are striking. Young teachers, professionally trained in the most up to date technics of nutrition, know the dramatic effect which food has on children, and they seize every opportunity to make the students conscious that good health is maintained by eating good food.

Food excites the imagination of children. Today your children may take pains to point out to you the fact that a bottle of milk completes a "five-star" lunch; a glass of lemon juice diluted with water taken before breakfast will help prepare you for the energetic day ahead; and the fact that enriched white or wholewheat bread is a necessity in the diet.

Such knowledge is gained by stimulating the student's interest in the classroom. Miss Margaret E. Elliot, who teaches homemaking in the Trumansburg, N. Y., Central School and assists the head of the department in work with student teachers from the department of rural education at Cornell University, reports that her third grade pupils take a lively interest in the study of vegetables in their social studies class. In their art class they make friezes showing how to choose one's daily vegetables. Recipes for making carrot and raisin sandwiches on whole-grain breads are written in food booklets which each pupil prepares as a Christmas gift to his mother.

In many public schools graduated courses in nutrition are given, designed to attract and hold the interest of the student according to his age. The effectiveness of making school children conscious of sound health through sound food is encouraging testimony of the important work being undertaken by our higher education facilities.

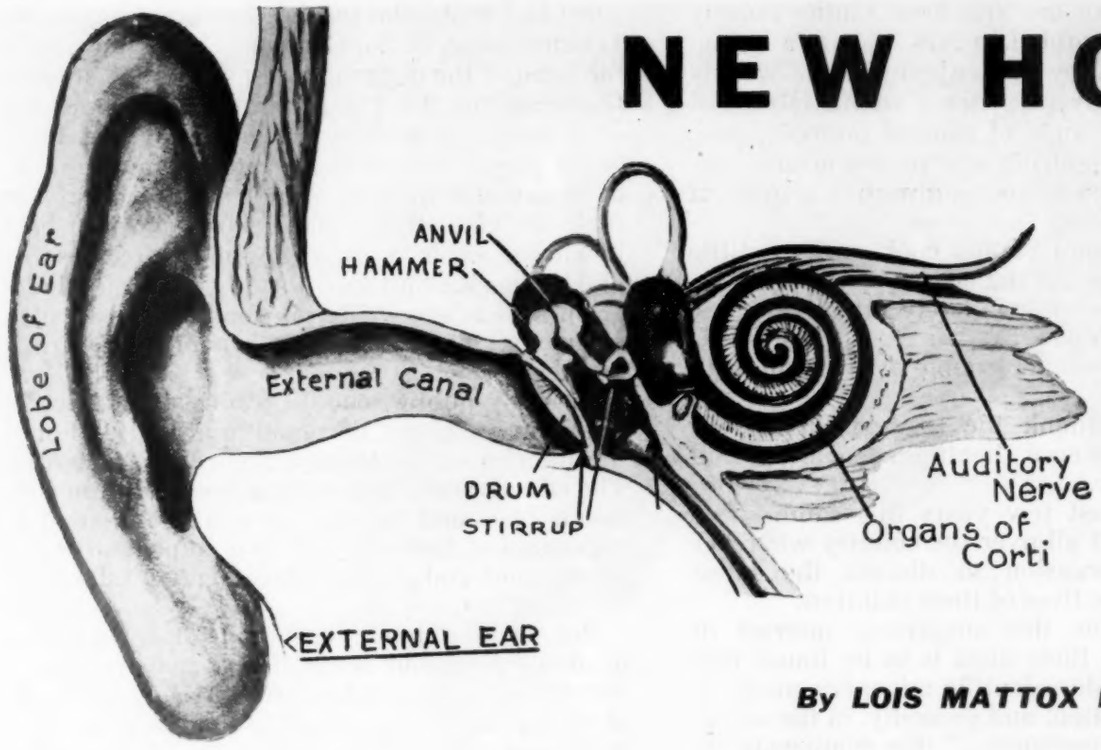
But trained home economics teachers who graduate from our seats of higher learning are not the only ones who have the advantage of studying the science of nutrition. In many colleges and universities courses have been instituted designed to train all young women in the art of homemaking, an art in which nutrition plays the most important role. These young women, whether or not they decide to marry, will know how to keep themselves physically fit to meet the fatiguing tasks of a career or how to prepare the right foods in the right combination for their husbands and children in order to garner for them prime health and energy.

Typical of the new and progressive emphasis placed on nutrition by educators is the experimental program in family life education for liberal arts students instituted at Macalester College in St. Paul, Minn. A major innovation in the Macalester program is the elimination of science prequisites such as chemistry so that students may be allowed to take a course in meal planning and preparation during the freshman year. Thus students who may drop out before completing their college careers will be well acquainted with the healthful advantages of a nutritious diet. Such a program is wisely recommended because it assures ample knowledge of everyday nutrition to those young women who do not intend to enter the specific professional field of nutrition. Although the courses in nutrition are in the main made appealing to women, many young men have found them necessary and helpful.

The new education has also been the concern of governmental and private agencies anxious to experiment and make known the importance of nutrition in preserving health.

During the course of the present war, both the United States and Great Britain have capitalized on the rapid growth in the science of nutrition. Great Britain in 1939 recognized the seriousness and vital necessity of providing its industrial workers with *(Continued on page 146)*

NEW HOPE



By LOIS MATTOX MILLER

THE young woman in the hospital bed listened intently, fascinated by the commonplace sounds that penetrated the heavy bandages swathing her head. The drip-drip-drip of the lavatory faucet, a murmur of distant voices, the clattering of the trolley car in the street, the ticking of the clock on the bureau—together and separately these sounds were more beguiling to her than music from another world. For the first time in almost fifteen years this young woman was *hearing.* Skilful surgery had opened a tiny oval window in the bony capsule of her inner ear, readmitting all the magic of the world of sound, ending permanently all the long years of total deafness.

The daring, delicate fenestration operation already has been performed in more than two thousand cases. Some of the operations were performed as long as seven years ago, and ever since then the patients have been under the surveillance of medical experts who doubted that the cure of deafness would last. For the trick is not only to cut the tiny window by virtually bloodless surgery, but also to prevent stubborn nature from closing the window again. Last year a committee of the American Academy of Ophthalmology and Otolaryngology conducted an exhaustive investigation of the fenestration technic and its long-range results. Speaking for the committee, Dr. Marvin Jones reports: "My belief six years ago was that the results of the fenestration operation, while dramatic, were not permanent. Recently, I have seen patients whose hearing, before operation five years ago, was below the useful range, and who now can hear low whispers in the operated ear."

The human hearing apparatus is extremely complex and surrounded by considerable mystery. Sound waves entering the outer ear strike the eardrum—a tiny membrane that separates the outer from the middle ear. Attached to the inside of the eardrum is one end of a chain of three tiny bones which are called (because of their shapes) the hammer, the anvil and the stirrup. Sound waves striking the eardrum vibrate the hammer, the anvil and the stirrup in sequence. The footplate of the stirrup fits into a window in the bony capsule which separates the middle ear from the inner ear. Through this window the vibrations of the stirrup are transmitted to the fluid of the inner ear. There, in some mysterious manner, impulses touch off a harplike set of auditory nerves and are transmitted finally to the hearing area of the brain.

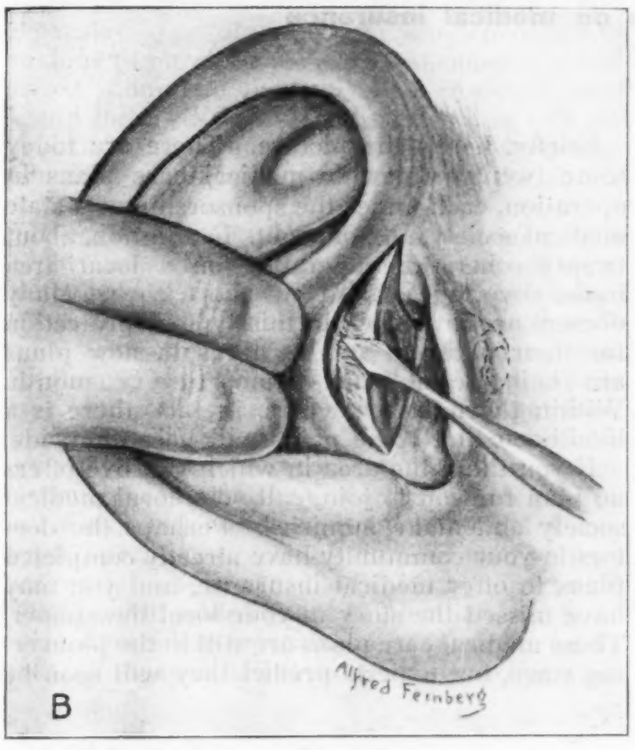
Things frequently go haywire somewhere along the line, resulting in the tragedy of deafness. In young children, for instance, an excessive growth of adenoids may block the Eustachian tube. Removal of the adenoids usually restores the normal hearing. At the other end of the life span, usually in persons over 60, deafness may be caused by degeneration of the auditory nerve. For this type of deafness, as in most diseases of senility, there is no cure.

Between these extremes lie the larger percentage of the 15,000,000 deaf persons in the United States. Their deafness is caused by a disease called otosclerosis. It involves no pain, no middle ear infection, and produces no symptom more alarming than ringing or buzzing in the ears and progressive difficulty in hearing.

What happens in such cases is that for some unknown reason a bony growth slowly closes the tiny window around the stirrup until the footplate is held fast. Thus no vibrations reach the fluid of the inner ear. The auditory nerve inside may remain perfectly healthy. But sound

FOR THE DEAF

An operation which restores hearing to victims of otosclerosis is now performed successfully by skilful surgeons in several clinics. The drawing below shows the opening phase of the operation



never gets through to the nerve for transmission to the brain.

For the past century famous ear specialists have puzzled over this maddening situation. Here were vast numbers of patients who were, for all practical purposes, "stone deaf." Yet in almost every case perfectly good hearing was present—but locked away in the inner ear where no sound could reach it!

In 1876 a German surgeon named Kessel made the first attempt to loosen the stirrup from the closed window; deafness vanished immediately, but soon the bony window closed again. Passow, another German, tried opening a new window near the natural one; but nature stubbornly closed that too. Holmgren, a Swedish doctor, sought to keep the window open by inserting a plastic peg, but this set up a "foreign body reaction" which caused new cell growth and closed the window even more tightly.

Surgeons in half a dozen countries, goaded by failure so close to success, tried and discarded one technic after another. The difficulties were enormous. Since otosclerosis occurs only in human beings, surgical research depended entirely on human volunteers. Because instruments and technics were still crude, many of the operations were bloody failures. The cry went up against human experimentation, and the researchers were branded as quacks.

But the work went on. The goal in sight was a great one: millions of deaf people might hear again if only some way could be found to prevent nature from undoing the surgeon's delicate handiwork. How to outwit the natural regenerative processes became a baffling scientific problem. Sourdille, a Frenchman, achieved a surgical miracle by delicately folding a flap of skin, thin as a spiderweb, over the new window to carry vibrations from the eardrum to the inner ear, then operated repeatedly to keep the window open "until the regenerating process of the bone becomes gradually exhausted." Other surgeons discovered that the bone growth usually started around microscopic splinters made while drilling the window. Using microscopes and delicate swabs, they located and removed every splinter. Even then another factor defeated their efforts: the slightest trace of blood left near the opening encouraged the growth of new tissue. So these pioneers went ahead and developed a virtually bloodless operation. But always the tiny window to normal hearing soon closed.

For all practical purposes the fenestration operation was a colossal failure. It challenged the imagination of a young New York ear surgeon, Dr. Julius Lempert. Poring over the records of earlier surgeons' work, he made a careful study of all the physiologic factors that might have contributed to the mystery of the ever-closing window. After twelve years of clinical work, he was able to report in the July 1938 issue of the *Archives of Otolaryngology* a technic that sounded entirely too good to be true. It was an improvement on Sourdille's method, but it had a number of remarkable advantages. Lempert explained that his operation was comparatively safe and painless and could be performed in one stage lasting less than two hours under a light, local anesthetic. Moreover, it *had to be* a bloodless operation. "No surgical maneuvers should be attempted in the labyrinth in case of *(Continued on page 136)*

PENNIES PAY THE DOCTOR

"The people look at the medical profession" is what the Michigan Health Council called its survey of public opinion about medical care. Results of the survey are shown in the charts presented here in conjuction with the article on medical insurance

DO you think two cents is too much to pay for little Johnny's tonsillectomy come Easter vacation? Would you pay six cents for an appendectomy? How about one dollar flat for that new baby?

Sounds fantastic? For eight million people these low prices are a pleasant reality. They belong to the medical care plans sponsored by local and state medical societies, or else they have insurance to cover the same costs with one of the reliable insurance companies that issue such policies.

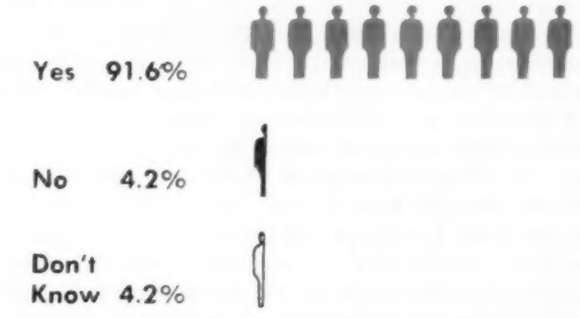
A survey reveals that 64 per cent of the people say their doctors' charges are reasonable. Nevertheless, you may be overlooking savings available to you under the insurance principle. Before you discount the possibility of such a "health bargain," find out what arrangements can be made in your area.

Briefly, here's the picture. There are today some twenty statewide medical care plans in operation, each under the sponsorship of a state medical society, all nonprofit. In addition, about twenty others are operating on a local area basis, covering a county or more each. Many doctors are interested in this type of protection for their patients, and as a result, new plans are being established almost every month. Within the next few years, in fact, there is a likelihood that these plans will be nationwide.

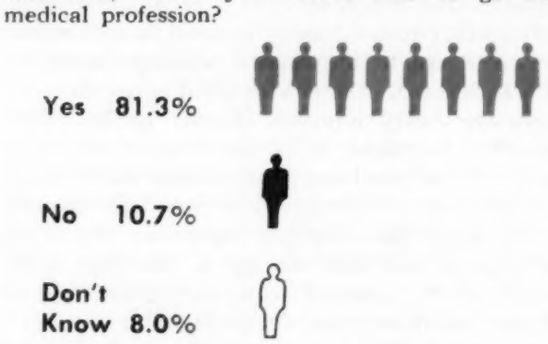
If you think the area in which you live offers no plan for you to join, call your local medical society and make inquiries. Perhaps the doctors in your community have already completed plans to offer medical insurance, and you may have missed the story in your local newspaper. These medical care plans are still in the pioneering stage, but experts predict they will soon be

Doctor, You Are Tops . . .

QUESTION: What is your opinion of doctors of medicine? As a group do you think they are doing a good job for the public?



QUESTION: If you were advising your son or another young man on a career and he were qualified and interested, would you advise him to go into the medical profession?



(Each symbol represents 10% of the population.)

* These figures show the popular vote. Voters were scientifically selected to give an accurate cross section of the entire population

By GORDON B. DUNCAN

The Insurance Principle Can Save You Money

as popular as the hospitalization plans now numbering more than seventeen million subscribers.

For the most part, medical care plans are actually surgical plans. Although only half of all hospital confinements call for surgery, the public still regards surgery as the dramatic and expensive type of care, and most people are anxious to purchase surgical insurance at a fair price. Complete medical care, in which you would have *all* doctors' calls—home or office—paid for by insurance, would require such high premiums as to be impracticable for the public at present.

Even by itself, surgical care insurance is a mighty important step in the direction of complete medical insurance. The cost of such insurance varies, but usually it ranges from 60 cents to 80 cents a month for the employed worker. Total coverage rates for insurance protecting his wife and other family members range from $1.50 to $2.50 per month. Usually plan benefits specify a generous maximum allowance for surgical care during any year. Benefits may be full-scale, with allowances up to $150 for any single operative procedure, or they may be partial scale. You are likely to get increased benefits with added years of membership, however, since plans operate on a nonprofit basis, with all income above cost acting to increase your benefits as the financial picture improves.

The largest medical care plan in the world is Michigan Medical Service, with headquarters in Detroit. Smaller plans pattern expansion on Michigan Medical Service as they aspire to serve a greater proportion of their community's population.

Organized by the Michigan State Medical Society in March 1940 as a complete medical care prepayment plan, Michigan Medical Service has for the past four years blazed a new trail in American medicine. A nonprofit program, it has become the nation's number one example of how the economic problems of adequate health care can be solved for the average family. Obviously it is having a profound effect on the general health of Michigan people. Here's proof:

Last year Michigan Medical Service paid $3,209,260 for surgical services to 62,200 patients. Total enrolment is now 681,600 persons—an increase of 200,000 during the last year. Jay C. Ketchum, director, gives figures to cover the years since organization, showing that the Michigan Plan has paid $8,918,700 to doctors for services rendered to subscribers, and has rendered this service in 178,375 cases.

Why are such figures important to you? What are the chances that you will require surgical care this year—or today?

Take appendicitis, for example. The odds are 35,000 to 1 that you won't be stricken today, but over the year these odds are reduced to 100 to 1 that you will be operated on for appendicitis. In 100,000 Michigan plan cases, 8 per cent were appendectomies, 14 per cent

The People Have Complaints . . .

QUESTION: In general, what are your "pet peeves" regarding the medical profession?

Doctors . . . .

Overcharge	Keep Patients Waiting	Are Dishonest	Lack Interest in Patients
6.5%	4.4%	5.6%	1.7%

No Peeves—68.8%

They Want Medical Security...

QUESTION: Is the medical-hospital plan for employees available where you work? If so, do you belong?

Yes 72.6%

No 13.9%

(Each symbol represents 25% of the population.)

• Nearly three-fourths take it when they can get it.

QUESTION: Do you or any members of your family subscribe to a medical or hospital service plan for which a monthly fee is collected?

Yes 41.5% No 56.6%

• More than two-fifths of the entire population already has some sort of protection. (But what of the other three-fifths?)

QUESTION: Would the availability of a medical-hospital plan be a deciding factor in your choice between two jobs offered you?

Yes 31.5% No 50.7% Don't Know 17.8%

• Its availability would influence nearly one-third in choosing a job.

were deliveries; fractures totaled 3 per cent of all cases. Appendectomies, however, account for a much higher percentage of total payments to doctors than the percentage of their occurrence.

If you have medical care insurance, the matter of cost will not worry you—but here's a note for your guidance: These plans do not say they will "pay your doctor bill." Actually they do, in many cases, but the fee schedule specifies that the amount listed is *not intended to evaluate or fix the surgeon's fee.*

Development of medical care plans was not an easy matter. As far back as 1929 the Michigan State Medical Society was working on the plan, and it took ten years of investigation and study costing $30,000 before legislation was finally introduced providing for the necessary nonprofit corporation setup, under state insurance department supervision, with doctors in control of the operation, standards and fees. Today, however, one out of every eight persons in Michigan is protected, and the ratio in some industrial communities is two out of every five, with many more groups on the waiting list.

When Michigan Medical Service began to operate, the plan provided medical as well as surgical care—whether the patient received care at home, in the doctor's office, or in a hospital. It soon became apparent that the public demand was for less comprehensive protection, providing only for surgery performed in the hospital. Thus two plans developed side by side: a complete medical plan and a surgical plan.

In two years the medical plan attracted only 7,375 subscribers, while enrolment in the surgical program had risen above 350,000. In July of 1942, the Service discontinued complete medical care through lack of interest on the part of subscribers. During the twenty-seven months the complete medical program had been in service, its average enrolment was slightly less than 4,000. Income was $148,395, or about $1.38 per subscriber per month. Even so, the plan lost $1.23 per member-month.

At the same time, the surgical plan ran into a deluge of delayed surgery cases occurring in newly covered groups, particularly among persons in the low income class. That is, many of these people had postponed surgical care because of the expense. But as soon as they were covered and could obtain treatment at low cost, they sought attention for old and chronic ailments. Great numbers of such cases, all coming in a short period of time, proved too great a drain on plan funds.

As a result, doctors' fees had to be "pro-rated" according to current income. Surgical rates were adjusted twice as the Service gained experience. The present scale of 60 cents to 90 cents a month for the individual, $1.60 for man and wife and $2.25 for the family appears both adequate and acceptable.

This past summer the Michigan Health Council decided to find out how the state's citizens felt about the plan and about the medical profession in general. They hired a research firm to take a scientific sampling of the entire state population. Among the findings was the fact that 72.6 per cent of employed people said that the medical-hospital plan is available where they work, and that nearly three fourths of these people take it when they can get it. More than two fifths of the entire state population already has some sort of protection, and 41.5

How Controlled?

QUESTION: If you were asked to choose, which would you prefer . . . . ?

1. Voluntary pre-payment program sponsored by the medical profession . . . 33.7%
2. Government-controlled . . . 15.5%
3. Regular insurance . . . 13.4%
4. Payment for service at time rendered 26.6%

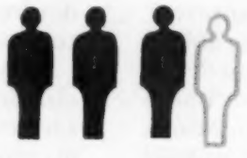
• **When they know there is a choice, the people *decisively* favor a pre-payment plan sponsored by you. . . .**

3 out of 4 Haven't Heard of Your Plan*

***(MICHIGAN MEDICAL SERVICE, *Sponsored by the Michigan State Medical Society*)**

QUESTION: Have you ever heard of a medical service plan sponsored by the medical profession?

No 75.4%



Yes 23.8%

• **Most of the voters do not know that there is an alternative to compulsory government pre-payment. This is a calamity. . . .**

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per cent said they or members of their families subscribed to a medical or hospital service plan. Nearly a third of the people interviewed said the availability of a plan would influence their choice between two jobs offered. If asked to choose, 33.7 per cent said they would prefer voluntary prepayment programs sponsored by the medical profession; 15.5 per cent want government controlled setups; 13.4 per cent favor regular insurance, and 26.6 per cent are satisfied to pay for medical and hospital services at the time they are rendered. In other words, when they know there is a choice, the people decisively favor a prepayment plan sponsored by the medical profession.

Why do most people prefer prepayment plans to cover the unpredictable expense of medical care? Competent nationwide surveys show these reasons, which bear out the results of the Michigan survey: (1) Prepayment plans assure care when it is needed. (2) Patients see the doctor earlier when no extra cost is involved. (3) Doctors' fees are assured and paid promptly. (4) Patients are not embarrassed by fee adjustments. (5) Patients enjoy greater economic security. (6) Costs are *(Continued on page 142)*

MEDICAL SOCIAL

The medical social worker bridges the important gap between medical care and full "rehabilitation"

THE civilized world recoils from the use of the word "charity" in identifying the work of philanthropic persons and social agencies. The true humanitarian now takes language into consideration when he plans for his humble neighbor and speaks of "welfare work," "philanthropy," "social service," "neighborhood work" and a few other things which we have dressed up in modern style for the purpose of sparing the sensibilities of our underprivileged patients.

This change in terminology came at about the same time as the change from "consumptive" to "tuberculous," from "home for incurables" to "hospital for chronic disease" and from "cancer clinic" to "tumor clinic." However, a name that has startling and unhappy connotations should not be changed for one that is milder and more soothing unless the change is accompanied by recognition in a practical way of the true purpose of mutual aid, even when it masquerades under a less condescending name. New names may be all right as far as they go, but they do not go far enough if the charitable purpose is obscured in any way.

"Medical social service" is a broad concept in hospital terminology. The department of the hospital known as the social service department is the expert hand which gives meaning to hospital service by supplementing the cure, or by mitigating the effects of failure to cure.

It is literally true that no hospital can qualify for public approval which does not make use of the technics in the field of medical social service which have been elaborated in our time. We are, indeed, rapidly approaching the day when hospital standardizing authorities will include a medical social service department as a prerequisite to the coveted approval which it is otherwise prepared to grant, for, without the social worker, the doctor may find that he is laboring in vain. The physician has added another important discovery to the long list which has established his vital place in modern society; he is coming to recognize the medical social worker as a most valuable ally in reestablishing his patients on a normal footing.

Moreover, modern medical social service does not limit itself to the poor. The huge group in our middle class, and even the wealthy, are deriving more and more benefit from the counsel and guidance of the social worker.

The social security concepts which dominate our political era have bound the medical social service department tightly within the hospital organization—so tightly, in fact, that we find ourselves unable to do without it. Even those who do not benefit directly from its manifold services are becoming aware of its usefulness in furnishing valuable information and interpreting it, and in supplementing the work of the physician. The social service department is indeed the conscience of the hospital. Without it, rules and regulations tend to be more rigid and the policies of the hospital more inflexible. The social service department furnishes daily proof that there must be exceptions even to the most stringent hospital rules.

Social service, in its most characteristic form, warms the heart of the doctor and prevents his reconciliation with suffering. When the physician or surgeon has done his best and has not succeeded, it is the social worker who is left holding the bag.

The potentialities of the social service department in the hospital are almost limitless. The

SERVICE

By E. M. BLUESTONE

diagnosis and treatment of disease are important, but are not exclusive methods of dealing with the sick. The social worker's presence can now be felt as a wholesome influence on the clinical management of the patient. Unfortunately, she is not often discovered and recognized in the hospital because she has taken up a position in the background, where she is apt to be overlooked by any one who is accustomed to tarrying over the brighter and more spectacular colors on the canvas. The hospital executive is, indeed, spared his greatest single source of trouble when he has an efficient social service department. He should, therefore, reconsider the needs of the department from time to time and acknowledge its services adequately while arranging for its reasonable share of the budget. This is "conscience money" in the best sense of the word. So important has the social service department become that it has built up certain working technics and certain mental disciplines which the hospital executive would do well to investigate and even adopt for his own varied uses.

Under the older methods of furnishing relief, charity was often handed out without the benefit of a social diagnosis and with little thought of its relation to therapy in general. It was an emotional process which seldom leaned on logic for its operation. It was, indeed, the easiest way. The surprising thing about it is that the philanthropist—who, as a rule, is the business man par excellence—was willing to resort to what we colloquially call a "handout," without much thought of a return on such an investment. He would, indeed, have resented the suggestion that such a handout might be thought of as an investment on his part. He was favored by fortune, while the object of the charity was not, and it seemed only fair to him that he should give whenever an urgent call for help that was so genuine and deserving was addressed to him. If there was anything in the nature of an investment in it for him, it was only in the religious sense that he might expect a handsome return for his generosity in heaven.

Inventions and discoveries have been going on apace, and better methods of dealing with old problems have been placed at our disposal. Statesmen are taking notice and are in turn making their contribution. In the particular area of hospital service, we are learning to get more value for our money and to see to it that those who must be helped are so well advised that such constructive help may be discontinued at the earliest possible moment. The handout thus becomes a social investment and less of a charitable contribution. Investments are made with the expectation of returns, even though failure may be experienced at times. Applied in the field of sociology, such an attitude becomes a productive method of dealing with poverty. In those instances where the underlying reasons for the investment are socially incurable, the return can still be great.

We have more beds in the institutions for mental diseases of our country than for all other diseases combined. One would hardly think these days that all we need to do is to provide shelter for such patients and let the problem somehow take care of itself. The psychiatric social worker is with us now and, working alongside the scientific psychiatrists, is showing us how to improve our investment in this area. You will also find the medical social worker in the field of tuberculosis, where she not only assists in the cure of the patient but also prevents the spread of the infection, prevents relapses and gives valuable aid in rehabilitation. She is forever adjusting her activities to the medical program laid out for the patient, and, in doing so, she works in close collaboration with the attending physician, teaching while she learns, to their mutual advantage. *(Continued on page 148)*

Science Triumphs over

THE telephone rang one night in a California home. The man who answered it listened with amazement and delight—his father was *speaking* to him! Ordinarily, that would be a very commonplace occurrence, for a father to call up his son, but in this instance it was a miracle—a miracle of science: Robinson Senior hadn't been able to speak understandably for years.

Nine years before, Mr. Robinson had developed a wheezing, rasping voice instead of his usual clear-toned delivery. He coughed, found it hard to breathe and complained of vague pains—some in the region of the ear. Physicians looked him over, and it was a tragic night when they gave their diagnosis—cancer of the larynx, involving the vocal cords. Complete laryngectomy or removal of the larynx, was indicated.

The ominous verdict and its consequences—removal of that little box in the upper part of his windpipe—meant a new life for the patient, and not a happy one. No air would be passing through his mouth in the future; he would have to learn to breathe through an artificial opening in his neck; he would have to learn to smoke in a new way; he couldn't smell things; he couldn't go swimming, as there wouldn't be any check valve against the entrance of water; and towering above all in point of importance to him was the fact that he would have to learn to speak in a new way. The outlook seemed very depressing.

The larynx, whose loss assumed such gigantic proportions to Mr. Robinson, is a cartilaginous box across which the vocal cords (folds of membrane) are stretched. When the air in the box is set in motion, it vibrates the cords and they produce sound which passes up to the mouth and is molded into speech by the combined movements of the tongue, palate, pharynx, lips and teeth. Changes in sound tones vary as the edges of the vocal cords are stretched or relaxed.

In addition to producing sounds by vibration, the larynx has other important functions. It serves as a passageway for air and cooperates in the regulation and distribution of air during the breathing process. It "fixes" the chest region during the making of muscular effort; it guards the airways and prevents unwelcome objects from entering the air passages—expelling them with a blast of air upward in a coughing action. It also expels products of the air passages, such as secretions. It helps in the swallowing of food, at the same time shutting off the air passages so that stray particles and liquids can't gain entrance. It participates when there are moans and sobs and cries.

Cancer was the cause of the removal of the larynx and ensuing loss of speech in the case of Mr. Robinson, but other people have had complete laryngectomies or loss of the vocal cords due to wounds in the throat caused by the shattering of glass in automobile accidents, or by war injuries, suicide attempts, falls against sharp-edged objects, or complications developing in the course of diseases such as diphtheria, tuberculosis and syphilis.

There are some more fortunate persons who have needed only partial removal of the larynx. In this case the air still passes through the mouth, but the speech is affected in each instance and some patients are left with only a whispering voice which may or may not develop, as time goes on, into a voice that is louder and more serviceable.

Mr. Robinson, with his total laryngectomy, was breathing through an opening in his neck. In the neck, where the incision had been made, a tube, or cannula, had been inserted—held in place by a disklike appliance. Through this opening came the air. However, he still had nature's molds of speech—the tongue, teeth, lips, palate and pharynx. And he had tissues left which would be of some assistance. If he could set the air in the silent vocal passages in vibration in some way, he would be able to speak again.

Physicians and people who had had total laryngectomies were consulted. Several methods of speaking were available to him. He could develop a new voice by using the air in his mouth and circulating it in a way which would cause vibration of the tongue and parts in the back of the mouth; he could gulp air into the pharynx and esophagus and let the surrounding walls direct the current of air—with the chest acting as a bellows to pump air up from the esophagus as he needed it; or he could store up a supply of air in the stomach by swallowing it with gas-forming foods or drinking highly charged water, and then force up the air with his abdominal muscles in a belching action. Many patients are able by these means to develop an understandable and satisfactory voice.

Too, science offered the artificial larynx for his use. This is a pipelike apparatus, made in

several models, which produces sound by throwing air to the back of the mouth and into the pharynx, where it is then formed into words by motions of the tongue, lips and teeth and other natural vocal motions. This apparatus gives the patient an understandable voice by means of a vibrating reed in the instrument, the reed serving the same purpose that the vocal cords serve in the production of speech.

Robinson visited a clinic, where he saw these "new voices" functioning. He saw one man using an artificial larynx of the pipelike type with excellent, though deep-toned, results. He saw another employing the esophageal voice—swallowing air and expelling it—in a way that was a true triumph over nature's handicap.

He was at the clinic one night when an inventor phoned about a speaking device which he had been working on—an external aid called the electro-larynx. Robinson went out to the man's house to see it. It was a cylinder 4 inches long, 1 inch in diameter. At one end of the cylinder was a vibrator button which connected by a cord to a battery.

This was the first time the device had been demonstrated on one who had lost his vocal cords. Robinson, following the inventor's directions, held the end of the cylinder which contained the vibrator button against his throat in the region where the larynx used to be, and pressed the little control switch. The mechanism in the cylinder set up sound vibrations in his silent vocal passages. As the vibrations traveled up through the pharynx and into his mouth, he molded them with his tongue, teeth and lips until they emerged as audible speech. He found, within a short while, that he could speak again. The device created the sound; he formed the words. The speech, however, was a monotone. But it was speech again that was serviceable, and he phoned his son and his friends—to amaze them with a "voice" after his long silence.

The conspicuousness of such a speaking device is somewhat of a psychologic problem, of course. Patients are sensitive about their use in the beginning. But after using their "new voices" for a few months they gradually become immune to comment. The artificial larynx which resembles the pipe is not too noticeable, and the electrolarynx cylinder may be partially concealed by the hand when the instrument is held against the outside of the throat. Instruments are carried about in pockets or in purses, or they may be clipped to the belt or hung from the shoulder in a carrying case.

Some people, like Robinson, learn to use the devices readily; others take long practice; and there are some unfortunate persons who cannot develop a serviceable voice at all. In the case of the electro-larynx, people cannot use it immediately after laryngectomy. Often they have to search for the proper spot of application. One patient found he could get best results by holding the cylinder to his cheek.

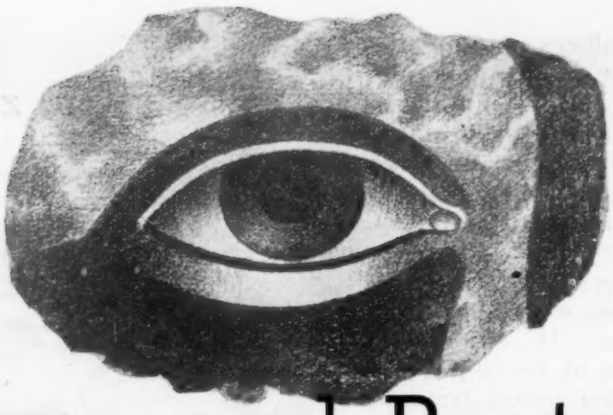
Strangely enough, lawyers, ministers, and war voice casualties who use artificial laryngeal devices do not find them a prohibitive handicap to their careers. Salesmen state that the devices are an asset rather than a liability. People remember the "man with the new voice."

Modern science, then, with its speaking devices, has brought new hope and great comfort to the man or woman with the "lost cords." The outlook is brighter. They are able to take their rightful places in society and communicate again with their fellowmen.

By ZOE REEVES

"the Lost Cord"

Science triumphs over "the lost cord"—devices aid those who have lost speech through injury or disease of the larynx



Emile Roux and Bacteriology

LEEUWENHOEK, the keen-eyed Dutchman, was the first to see and the first to describe bacteria as a distinct race of tiny beings. That was in 1683. But with his best microscope Leeuwenhoek could not distinguish one kind of bacteria from another. Not until the nineteenth century, under the guidance of Pasteur and other giants of the laboratory, were the various organisms identified and correlated as causes of certain definite diseases. Among the organisms which were first so isolated and described were the germs of anthrax, leprosy, tuberculosis and pneumonia.

The processes of medical diagnoses are often like the procedures of a court of law. The villain, which in this case is a bacterium, must first be apprehended, before it can be brought to trial and a judgment can be read. After the stethoscope, the x-ray and the bronchoscope have been employed, the microscope is nearly always resorted to; on its revelations the final disposition of the case is usually made.

Of course, even with the microscope the evidence is not infallible. It is a human eye which peers through the microscope, and with everything human there is a possibility of error. Disease germs, like their prototypes in a court of law, have their aliases and alibis. For instance, the microscope can tell us that it is the pneumococcus germ which is present under the lens, but it cannot tell us which one of the numerous different types of pneumococcus it is. Other methods are necessary to differentiate one type from another. When Koch announced the discovery of the tubercle bacillus, he assumed that there was only one germ in nature that had the same appearance under the microscope. What he did not know was that there are four different types of tuberculosis germs: the human, the bovine, the avian and the cold-blooded animal type, and that while they appear identical under the microscope, they have different behavior characteristics.

We have all heard of cases of mistaken identity in which an honest man who happens to resemble a certain rogue is charged with crimes he never committed. Thus a number of honest bacteria are frequently haled into court on suspicion because of their resemblance to the tubercle bacilli. One of these, the paratubercle bacillus, causes Johne's disease in cattle; another causes leprosy in man. The rest are well meaning germs with no bad characteristics whatever. One of these harmless bacteria is the timothy bacillus found in grasses. Others are found commonly in such places as the soil, butter and human earwax.

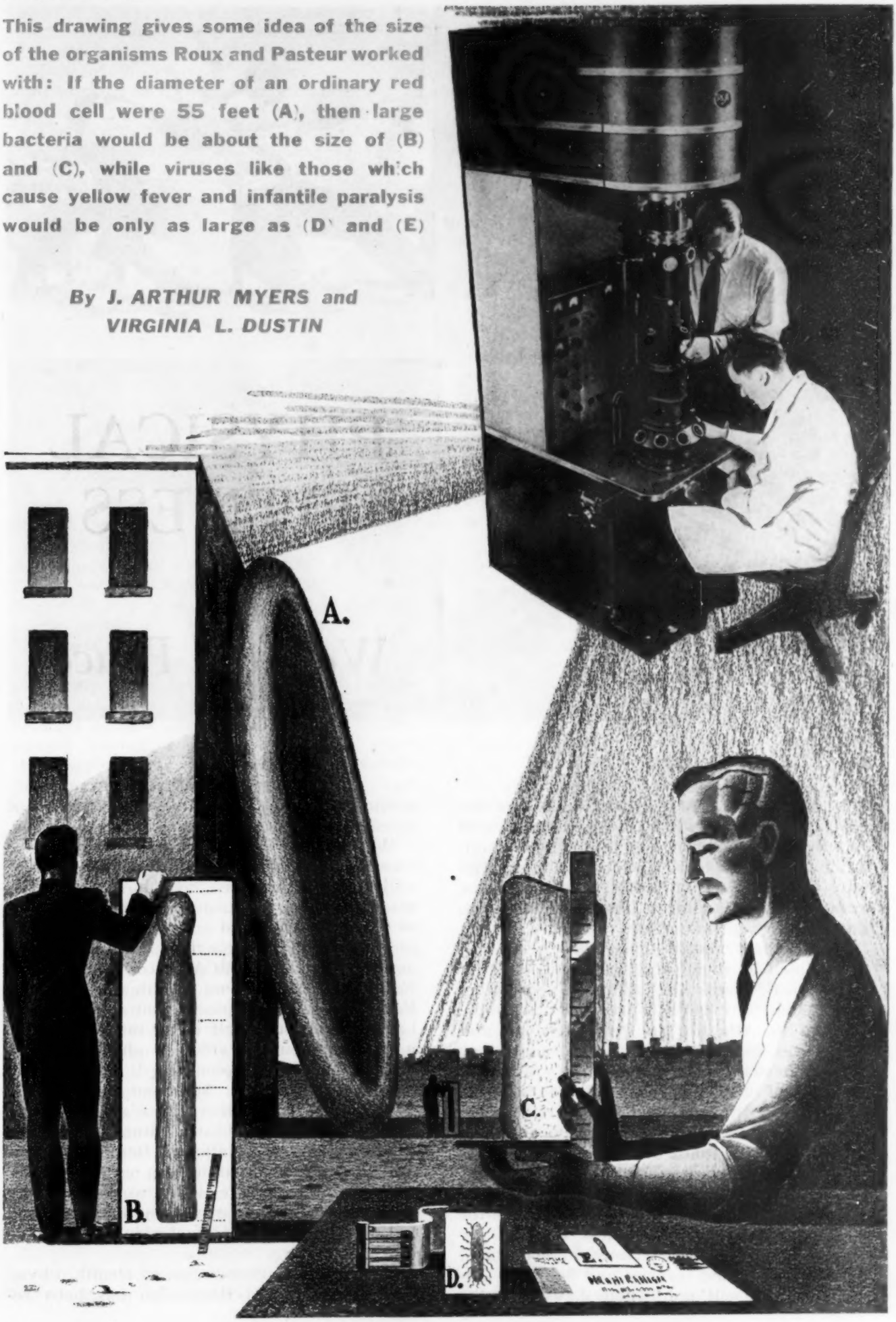
Long ago, before the first germ had been isolated and identified, it was learned that material from one sick person or animal could, when introduced into a healthy creature, produce the same disease. It was obvious, even to those early workers, that this material contained something which caused the disease. This something was designated as virus. Even today, there remain a few contagious diseases for which no germs have been identified and which are still spoken of as "virus diseases." While it is possible that such viruses are composed of chemical molecules only, it is more likely that they are living organisms. It is possible that they have already been seen but have gone unrecognized because methods have not been adequately developed to bring out their characteristics.

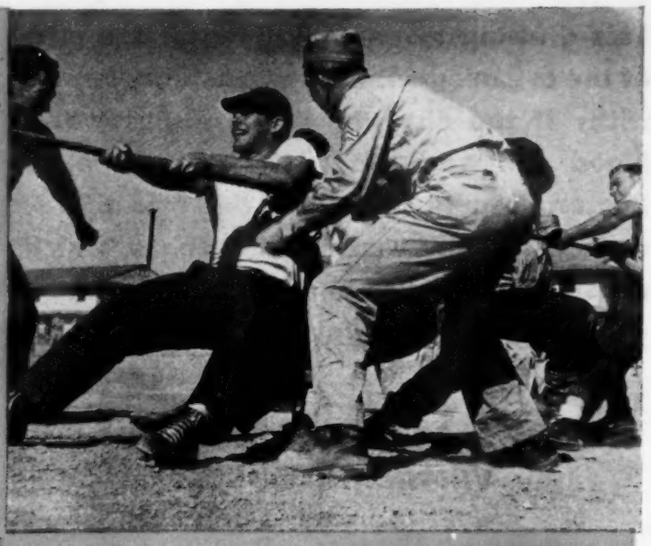
Many persons believe that the virus organisms are extremely small and therefore the microscope has not had sufficient magnifying power to make them visible to the human eye. Physicists and manufacturers from various parts of the world have increased the magnifying power of the microscope from time to time, and today instruments in common use are capable of magnifying objects two to three thousand times. However, because this magnification appears insufficient to detect certain disease organisms, there has been constant effort to increase the magnification of this instrument.

One microscope has been constructed which uses the extremely short, ultraviolet rays. With this instrument, it is possible to photograph objects 5,000 times actual size. The most recent development of all is the electron microscope, which magnifies objects 10,000 to 30,000 times. Photographs made of such objects are so sharp in detail that they may *(Continued on page 132)*

This drawing gives some idea of the size of the organisms Roux and Pasteur worked with: If the diameter of an ordinary red blood cell were 55 feet (A), then large bacteria would be about the size of (B) and (C), while viruses like those which cause yellow fever and infantile paralysis would be only as large as (D) and (E)

By J. ARTHUR MYERS and VIRGINIA L. DUSTIN





PHYSICAL FITNESS *in War and Peace*

PHYSICIANS and physical educators are familiar now with the needs for increased physical fitness among the civilian population. Some 45 to 57 per cent of those who have been called or have volunteered for armed service have been found unfit to serve their country in this way.

Our armed forces have declared, and exemplified by their program, the essentiality of physical fitness for an effective fighting man. Men have gone to their deaths in the Pacific, the Atlantic, the Mediterranean and elsewhere around the world because they could not swim or did not possess sufficient strength of arm and general endurance to hang on to a life raft until they were rescued.

In spite of the advances in physical fitness which have been made during the past twenty-five years in our schools and colleges, 50 per cent of the boys now enrolled in high school do not receive the benefits of any program for physical fitness. Certainly less than 50 per cent of the young men who may yet be destined to enter the armed services and fight our battles overseas will not, when they enter the service, have had the benefits of a program of physical fitness unless some action is begun.

We have never had a national point of view on physical fitness in this country. Many national organizations have, however, recognized this need. Education, through the Office of Education, has had a physical fitness point of view which is national in scope for schools and colleges. The YMCA, in reestablishing its National Committee on Health and Physical Education after a lapse of four or five years, has reestablished itself as an institution with a national point of view on physical fitness as far as the YMCA is concerned. The Amateur Athletic Union, the American Legion, the YWCA and many others have also seen the need for planned physical fitness programs. The American Association of Health, Physical Education and Recreation, as a national organization for the professional workers in the field, has had a point of view national in scope but certainly not a national point of view for the people.

The American Association of Health, Physical Education and Recreation has been re-

stricted by its very growth. Consisting of at least 90 per cent school and college men it has not had the advantage of critical interchange of professional workers representing and working in various institutions throughout the country.

The physical fitness of this nation cannot be judged from the few outstanding athletes of the nation nor the few exponents of gymnastics or swimming. It can be judged as one walks along 7th Avenue of New York City, or 7th Street of Washington, or Main Street of any community in America. Somebody said recently, "If you and I and the rest of us are satisfied with the condition of physical fitness which we see on our streets and in our subways, our trolleys and our buses, then God help America!"

Physical fitness fundamentally must be a program designed for all the people. We cannot fight our wars or win our peace with only the physically fit cream of the crop. We need all the crop. Just as total war demands every ounce of energy that can be generated by the 136,000,000 people in this nation, the peace which follows will demand a virile, strong, enduring, single nation.

We awoke from Pearl Harbor realizing that America was not fit. As we enter the fourth year of our participation in this war, we realize that little has been done for physical fitness in the nation as a whole during three years. True, many schools, colleges and organizations have programs, but America cannot be made physically fit by institutional activities alone.

The campaign for physical fitness cannot wait for the slow growth that has been demonstrated during the past twenty-five years. Wars are often periods of accelerated growth; there must be accelerated growth in the physical fitness of the nation. We need a campaign like those conducted to bring an automobile into everybody's home and make the automobile both the sign of prestige and an essential part of the industrial and personal equipment of every American institution and every American person. This new campaign is as necessary as any of those that have been conducted in relation to curative medicine—as necessary as was the campaign for fine, clean water and proper sanitation. Physical fitness by its very nature is not curative but preventive, and like most preventive activities it lacks the drama of cure. We have not been afraid to be physically unfit in the past, but every mother or wife in this country must today fear for her son or husband should he lack the physical skill and endurance to make the foxhole in time, to hang onto the life raft, to finish the approach to attack and have enough endurance to beat the enemy at his own game.

If the campaign for physical fitness is to be effective, every institution must assume its proper responsibility and exploit itself to the fullest degree for the furtherance of physical fitness. Women's clubs, patriotic groups, industry, labor and management, our social agencies, churches, chambers of commerce and schools and colleges must all make their fullest contribution. Physical fitness must be a problem for consideration by every organization to determine the way in which, through its normal channels, it can best aid in the assurance that never again will America be found to be soft.

Nobody wants physical fitness by edict; we desire that it shall be achieved through the wish of the people. A great educational and promotional campaign must be launched and continued in order that every individual in the United States may feel it is an imperative part of his personal equipment, both from the point of view of health and the point of view of patriotism, to be physically fit. Our radios, our newspapers, our magazines—every means that we know—should be utilized to pound into the public's ear a realization that physical fitness is a personal responsibility. Our advertisers must join with all of us in the realization that they, too, have a responsibility through their expert public appeals to bring home to the people that physical fitness is one of the prerequisites that go with a healthful, vigorous and hopeful nation.

Physical fitness as a people's problem places responsibility on government at various levels. The fundamental responsibility may well be that of municipal governments. Legislation must be enacted on all levels that will provide the necessary means whereby all the people, irrespective of race or creed or economic status, can enjoy the privilege of physical fitness. There will probably be a need for federal and state aid through municipalities in order that they may be able properly to carry their responsibility. This aid may be in terms of money, facilities, leadership or actual programs.

The physical equipment and facilities for physical fitness are the tools that are necessary in order for the job to be effectively carried out. Not only must we overcome the feeling that play activities designed to produce physical fitness are unpatriotic when a nation is at war, but also we must increasingly provide the necessary equipment for civilian participation in these programs. Too often physical fitness in the minds of those who are in authority is a luxury. Surely there has been sufficient demonstration that physical fitness is a necessity for a great nation at war; as long as it is a necessity means must be provided whereby physical fitness can be effectively promoted among all the people.

The American public can be educated to feel that physical fitness is a personal responsibility as much as they have been educated to believe in the cleaning of teeth and the washing of necks. Nations have *(Continued on page 123)*

By T. R. RETLAW

MAN'S prejudiced feelings about himself may influence his own thoughts and actions. Too, these feelings about himself often influence adversely the way he feels and thinks about other people. Distortions in emotional growth and development may seriously interfere with our ability to live satisfactorily with ourselves or with others.

A smoothly integrated emotional growth and development are essential for the production of a healthful frame of mind. The emancipation from infancy, childhood and adolescence are processes of natural growth and development for meeting the demands of maturity and social functioning. These are the more hazardous periods in life when distortions in emotional growth are apt to occur.

Emotional conflicts in the process of living are not only associated with changes that interfere with smooth and orderly functioning of various organs and parts of the body, but they interfere also with smooth and orderly functioning in community living. This community functioning is as essential to health as is the smooth and orderly functioning of an organ of the body. Positive emotional health is necessary for most productive actions and for creative endeavors.

Social organization represents the formation of a medium through which man's biologic destinies are conventionally expressed. Man cannot meet the demands of maturity, with its social obligations, when his emotional development is warped or stunted. His behavior, which embraces a composite of his feelings, thoughts and action, is the total or end result of a life in action. A philosopher of another day has said: "Note what man does; mark his motives; observe in what things he finds rest and relaxation. How can he conceal his character?"

Positive health means more than the mere absence of disease or disordered body functions. Positive health is concerned with the over-all functioning of a living organism which fuses, synchronizes and coordinates the multiple factors, both within and without the body, that living encounters. The functioning of a

person is conditioned by three forces—those innately present within his body, those inherent in the earth on which he lives and the forces present in his social heritage, or cultural pattern. The integration of the person who succeeds in coordinating these various forces promotes satisfaction, contentment and happiness and achieves a "healthy frame of mind."

Positive health is directly related to a person's worth in our social order. One's individual worth cannot be judged solely by conformance or lack of conformance to a given cultural pattern, nor can it be judged solely by skills in competition. Individual worth in a social scheme is related more specifically to those beliefs, or ideas, which compete within the mind. Society needs not only men and women who are intelligent and technically or professionally skilled, but also those who can live happily and securely with themselves and consequently with others. Intelligence alone in an emotionally unstable person may be used for destructive purposes, for defeatism, or for the expressions of antisocial behavior.

The adoption of a set of personal standards for living is concerned with the development of a personal scheme of values. When we acquire the ability to include in our daily lives the ethical and esthetic values that are held highest, we are likely to assume the status of a joyous and healthful frame of mind; then emotional growth may be considered on the way toward maturity.

Emotional growth and development is beset with many hazards. Like physical growth, it is subject to both internal and external influences. The cultural demands of society and the intervention of other people are potent influences affecting the emotional side of life.

The influence that outsiders play in molding an individual's emotional development can readily be seen. The competence of newborn children to live is dependent on the intervention of other people. Like many other animals, men and women busy themselves with procuring food and protection for their young. As children grow up, however, we do not abandon them, but live with them for a long period on a social footing. Thus the intervention of other people and the phenomenon of interpersonal relationships is a heritage prevailing throughout our lives. These parent-child relationships of infancy, because of the profound emotional linkage involved, deeply influence the character of our later adult personal associations.

Newborn children possess innate qualities that serve to protect them from affronts that endanger their security. To the infant, the parent becomes associated either with affronts or conflicts or with satisfying rewards, and by this process the child's self identification is born. The infant cry becomes the first tool for asserting a new self in the sun of human affairs. The child is destined throughout his life to negotiate in one way or another the many barriers to satisfaction of his needs and wants. Eventually, the ways in which the child fulfils his need for personal guardianship and security and the ways he adopts for softening the devastating and humiliating hurts of living, determine his qualities and his character as an individual.

In infancy, the personal relationships are intimately bound up with dependence and indulgence. The material and physical needs and requirements of the child are met in more or less automatic fashion. But when the child passes from a situation of absolute dependence and indulgence, in which material needs were primary considerations, to one in which self realization and self determination become of greater importance, personal relationships also become much more complicated.

In this later period other people become superimposed on the earlier mother-nurse picture. The many people now involved are concerned with protection from harm; with mutual love and understanding; with criticism balanced against praise; and with the making and enforcement of many "musts" and "must nots." The latter are often inconsistent and bewildering to a child unless mutually affectionate regard becomes established. Without this mutual respect and faith, these admonitions will not be emotionally acceptable to the child. Inner emotional conflicts of far-reaching effect may arise through feelings of deprivation. The methods of administering the "musts" and "must nots" of discipline in early childhood are emotionally acceptable only when the child is assured of gaining and maintaining his emotional security through the medium of mutual affection. Confidence and respect are thus established for the wisdom and consistency of his "law givers." The child is happily assured that he is wanted for himself and that he is of supreme importance to a particular group of people. With such a setting for acquiring the rules of a cultural pattern, personal security is maintained and the child's own beloved powers are reasonably safeguarded.

Two major needs are necessary for well grounded and satisfying emotional growth in children. First is security in one's self, or the ability to be at peace with one's self. Second is the confident realization that one is of great importance to particular other persons. Thus mutual faith and affection are essential for the orderly development of the emotional life.

The filial and family ties of childhood can be among the richest of human relationships. When these are satisfactory, they become integrated with and are reflected in the character of all future interpersonal relationships. Circumstances may cause failures in supplying these needs. The methods by which the child's satisfactions are experienced in parental and family relationships are those most likely sought after or built into his other satisfactions in later life.

WHENEVER girls or women meet the talk turns sooner or later to beauty, the skin, especially the facial complexion. Inevitably there is mention of enlarged pores, and then astringent lotions.

What is an enlarged pore? What do people mean when they talk about enlarged pores? Anatomically speaking, the enlarged pore would be an engorgement, with an accompanying increase in diameter, of the exit of the ducts which pour sweat from the sweat glands. The anatomical pore does not reach the surface of the skin; it is located between the true or underlying skin and the outer or scurf skin. Perspiration from the gland proceeds along the duct or canal to the under surface of the scurf skin. Here the secretion channels its way between the layers of the epidermis and reaches the surface between the cells of the outermost layer of skin. This point of exit is not a pore, does not enlarge and is not the thing women speak about when they mention enlarged pores. There would be no need for astringents, there would be no blemish from this channel.

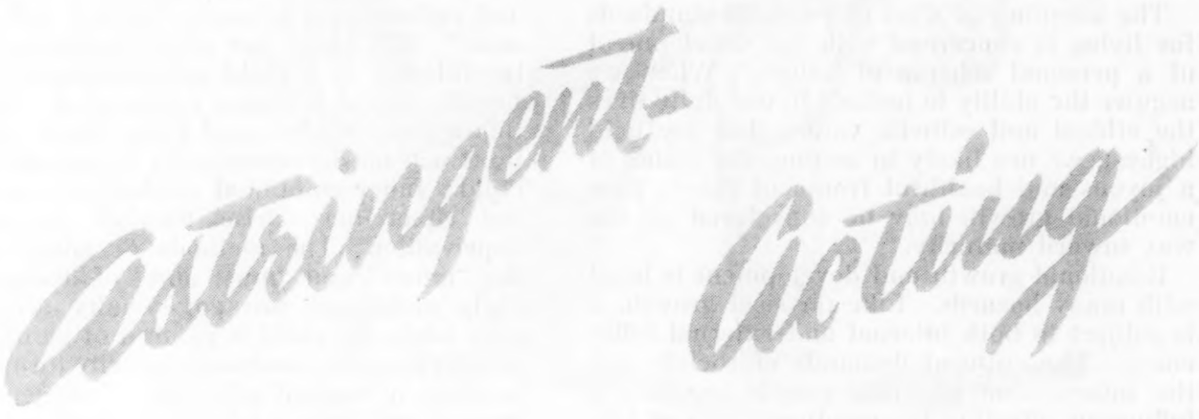
What the ladies speak about when they discuss enlarged pores is the appearance on the surface of the skin of a follicle or indentation from which a baby hair normally makes its exit.

You must remember that the skin of the face of both men and women is able to grow hair. The boy at the time of adolescence grows a beard. All girls have the tendency leading to the formation of facial hair. Often, the colorless baby or "lanugo" hair actually appears. If the indentation or hair follicle prepares for a hair which does not appear, the aperture on the skin surface takes on the appearance which has been given the name "enlarged pore."

From this description and explanation you should be aware of the facts. When your mirror reflects your facial complexion with enlarged apertures, you are actually viewing a "frustrated" hair indentation. No perspiration appears at these apertures. Rather, they accompany or are precursors of or part of the mechanism of blackhead formation, or the pimples and boils of adolescent life.

What can be expected of any external application in causing the apparent disappearance of these enlarged hair follicle apertures? One would expect from some conversations that these enlarged hair follicle apertures were not unlike cellar doors—to be opened or closed at will. In fact, one actually hears of "closing" enlarged pores and "opening" enlarged pores. The truth of the matter is that any appearance of shrinkage of these apertures is more apparent than real. But, it may be protested, enlarged pores of the hair follicle and not the anatomic variety actually do appear to close or shrink following one or another cosmetic procedure or application.

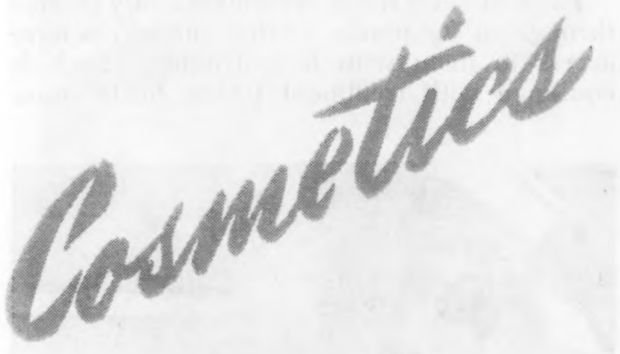
Let us review some of these, beginning with an instrument known as a "patter." You can take this instrument and beat the skin in the area of the offending blemish fifty times, or a hundred times, or until your patience and your wrist are exhausted. For the next hour, or two hours, or three hours, you are satisfied by self examination that the enlarged pores have diminished. What has actually happened? The physical massage, the self-inflicted punishment, has resulted in a mild inflammation of the normal tissue between the hair follicles. As a result of this inflammation, part and parcel of the inflammatory reaction, the blood vessels have been engorged. There has been a leakage of blood serum into the tissue. This crowds the hair follicle and leads to the desired appearance of closure of the hair follicle apertures on the surface of the skin. It is temporary, but it is subject to repetition. Perhaps you are satisfied and perhaps your friends are satisfied. You may continue or discontinue the application of the patter, according to your temper and temperament. Other physical causes of mild, controlled inflammation around the hair follicles are heat and cold, sunburn and windburn.



By HERMAN GOODMAN

Each results in inflammation. Each results in an apparent decrease in the diameter of the orifice of the hair follicle. Each leads to the appearance of closure of the enlarged pore.

Turn now to chemical means for obtaining astringent effects on the blemish called an "enlarged pore." If physical beating causes inflammation, as described in the case of the patter, it is easy to understand how chemical activity may lead to the same result. Nearly all skin astringents designed for modifying the appearance of enlarged pores include one or another of the chemicals in the class of benzoin or menthol or camphor. These are active drugs which cause, on application to the skin surface,



a reaction of the inflammatory type with resulting engorgement of blood vessels, leakage of serum and compression around the hair follicle. As the reaction to the chemical wears off, the inflammation diminishes and the skin reassumes the appearance it had prior to the application of the material which induced the inflammatory reaction. Hence, the action of chemical applications of this nature is also purely temporary. Applications must be repeated to cause retention of the inflammation and continued absence of enlarged pores, speaking in the apparent and not in the anatomic sense.

These explanations may leave you unconvinced. Yet the explanation is correct and has been accepted in principle by the Federal Trade Commission and Food and Drug Administration. There is no denial that astringent-acting applications perform in the fashion that has been described here, though there is a distinction between astringent and astringent-acting applications. This distinction has been accepted by the official agencies.

How is it, then, you may ask, that these so-called enlarged pores may sometimes disappear completely, so that there is no longer a need for physical or chemical applications. The answer is that some people, especially young people, who complain of the blemish of enlarged pores may have no sign of this skin fault later in life and yet have made no physical or chemical attempt to reduce the surface appearance of enlarged pores. It would seem, then, that this blemish is for the most part self-effacing.

Nevertheless, a small proportion of women seem to be engrossed more and more with the passing years with the enlargement of surface apertures of the hair follicles resulting in the so-called enlarged or open pore. The fleshy woman or the woman with the greasy skin complains in this regard far more than her friend who is slim and says she has a "dry" complexion. Some people believe that dietary indiscretions have something to do with the appearance of these enlarged pores on the skin surface. Many other explanations have been offered, including one which relates the appearance of openings in the skin to the functioning of the endocrine glands. However, no specific cause has been isolated as being responsible for this condition.

Another phase in consideration of astringent-acting materials is the utilization of after-shaving applications. No matter by what technic he shaves the man of the house may often rupture the skin surface. The after-shaving astringent lotion supplies antiseptic action and medication to stop superficial bleeding. Effective after-shave lotions are supplied by dozens of commercial companies featuring cosmetics for men. Any astringent action in the after-shave lotion depends on the same reactivity—namely, inflammation producing engorgement of the superficial blood vessels and leakage of blood serum. The slight flush, the ruddy appearance, the smooth texture of the skin all result from this activity. Too, the pleasing odor and sense of well-being add to the man's feelings of stature. He faces life and his boss with greater surety. He is a man!

Both men and women may have some need for cosmetic applications in the class of astringent-acting material. The fact that the action is temporary is not necessarily a bar to their repeated application. With a knowledge of how they act and of what results may reasonably be expected, application of astringent-acting materials offers an opportunity for putting your best face forward without the hazard of "enlarged pores."

"Enlarged pore" is a misnomer; the "pores" are really hair follicles. The use of an astringent may often be helpful in improving their appearance

KEEPING SUPERFORTRESS

WHEN a giant B-29 Superfortress rolls off the production lines of Boeing Airplane Company's plants in Wichita, it represents many hours of intense and coordinated effort on the part of thousands of men and women engaged in this vital war program on the prairies of Kansas.

The Army Air Forces has termed the B-29 the most urgently needed weapon under construction today, and to meet AAF schedules employees must be kept at the peak of their efficiency. Maintaining constant watch over the health and general physical welfare of every Superfortress builder is the plant medical department. The scope of this organization's task is partly illustrated by the fact that cases, both industrial and nonindustrial, average more than 80,000 a month—almost a million a year. In round the clock figures, this means that every minute of every hour of every day, nearly two persons receive some form of service from the plant medical department.

The physicians on the staff are on full-time duty; they served in World War I and have been in private practice most of the period prior to the present conflict; one has had past experience in industrial medicine. The nurses were previously engaged in private duty, served as office nurses or recently completed their nurses' training. Some have had former experience in industrial nursing.

Twelve spotlessly clean and completely equipped first aid stations are maintained—ten in the two plants, one at the division of aircraft training in downtown Wichita and the other in a downtown employment office. The scope of these operations is quickly apparent: Records show that in 1943 these stations used 110 gallons of merthiolate and dispensed 1,880,000 soda bicarbonate tablets and 1,700,000 aspirin tablets. In addition, medications for sore throats, head colds and gastric disturbances were issued in large quantities.

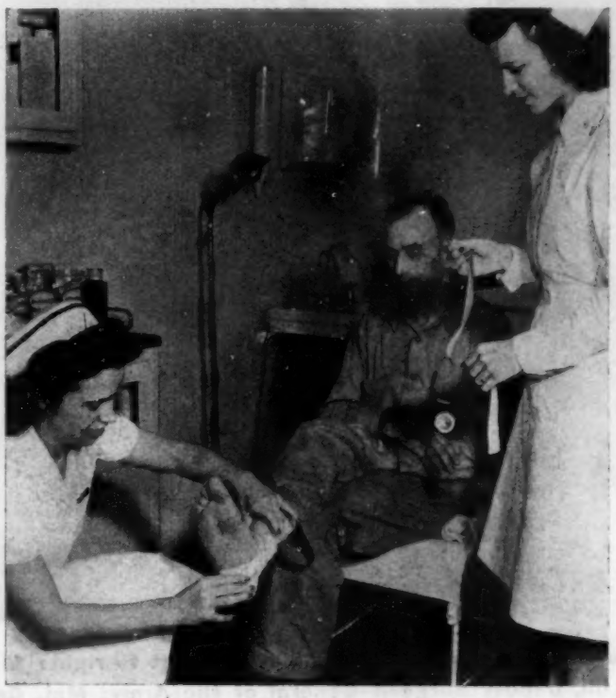
The first aid stations are conveniently located throughout the plants, so that employees have access to them with little trouble. Each is equipped with treatment tables, heat lamps, stretchers and all the supplies and medications necessary for first aid work. Ready for emergency use are an ambulance and car (which may be converted into an ambulance), a scooter ambulance for taking employees from the factory floor to the larger motor ambulances, inhalator and resuscitator, and a late model x-ray machine for use in case of fractures such as minor hand and foot injuries.

Motor and scooter ambulances are part of the plant's first aid equipment

Most of 17,000 eye cases each month are caused by tiny bits of material

BUILDERS FIT

One war plant has found that thorough first aid equipment and treatment, administered by a competent staff, means fewer lost hours and improved morale



Wearing safety shoes has greatly reduced the number of foot injuries

Modern x-ray machine is part of equipment operated by medical department

Records show that industrial visits to first aid stations in 1943 totaled 430,629, this figure including original injuries and redressings of such injuries. The total of original industrial injuries for 1943 was 302,063, most of the cases, of course, being of a minor nature. Primary injuries from Jan. 1 to May 31, 1943, totaled 119,291, compared with 120,358 for the same period this year. In the former period the plants were working three shifts of seven and a half hours each, and in the latter they changed to two extended overtime work schedules of ten hours each. The longer work periods may in a small way account for the slight increase in primary injuries.

During the first month of the extended overtime work schedules the visits to first aid stations were increased by approximately 15,000. However, there was an influenza epidemic in the community at that time, and it is believed that this accounted for a number of the increased calls, especially because visits since then are well in balance with those on the shorter work shifts. Records reveal that there are 3,000 to 5,000 more first aid calls per month on the first shift than on second. About 55 per cent of the total employment is on first shift.

Most of the industrial cases treated are not of a serious nature. All employees are instructed to report injuries at the time of happening, as immediate treatment helps prevent infection and in most instances employees will not have to lose time from work.

Minor cuts, burns and tiny pieces of metal in the eyes make up the majority of calls to the first aid stations and constitute the greatest number of industrial cases. Nonindustrial cases, of which there are many thousand each month, are one of the medical department's big problems. These are handled on the theory that in such a vital program as the construction of Superfortresses, workers must be kept on the job and feeling well. But the policy always stresses the fact that the ailing employee should consult his or her own physician.

Nonindustrials come in all types: sunburn, cuts, bruises, sprains, blisters, sinus, colds or just plain day-after upset stomachs and throbbing heads. A nurse, treating a fresh cut on an employee's hand, notices an abrasion on his upper arm, which he received on the previous day's outing. She treats that too, with the remark, "Such a thing can become infected and we don't want to *(Continued on page 122)*

Group at the Vaughan General Hospital dedication; left to right: Maj. Gen. George F. Lull, Deputy Surgeon General of the Army; Maj. Gen. Russel B. Reynolds, Commanding General of the Sixth Service Command; Dr. Elizabeth Vaughan Potter, granddaughter of Victor Clarence Vaughan; and Brig. Gen. P. J. Carroll, Commanding General of the hospital

Victor Clarence Vaughan

This article is condensed from an address by Doctor Carlson at the recent dedication of the Army's Vaughan General Hospital, Hines, Ill.

BORN on a Missouri farm, of French-Huguenot lineage, Victor Clarence Vaughan graduated from Mount Pleasant College, Missouri, in 1870, at the age of 19. Then young Vaughan made his way as an instructor by teaching Latin to the undergraduates at Mount Pleasant College, while he taught chemistry to himself in a laboratory improvised by himself. For the next fifty years, chemistry as applied to biology and medicine became one of Victor Vaughan's major interests and pursuits.

In 1874 Victor Vaughan entered the University of Michigan as a graduate student in chemistry. There was some hesitation on the part of the faculty as to the young man's qualifications to become a graduate student in the University of Michigan at that time. In view of his subsequent distinguished career at Ann Arbor, this initial doubt about his capacity makes one smile. In the short time of four years Victor Vaughan was granted the degrees of M.S., Ph.D. in chemistry and M.D. by the

By ANTON J. CARLSON

University of Michigan. But already in 1875 the University appointed him an instructor in biochemistry and thus started his forty-six years of distinguished service in the teaching of medical students at Ann Arbor. That Dr. Vaughan was a superb teacher, by precept and by example, is proved by the record and by the testimony of his ablest pupils. Soon his teaching embraced chemical bacteriology, hygiene and public health, in preparation for which Dr. Vaughan studied with Robert Koch in Berlin in 1888.

In 1891 Dr. Vaughan became Dean of the Medical School of the University of Michigan, and for the next thirty years we see another faculty of this superior man in full bloom and fruition, as a medical college administrator. Dean Vaughan, ably seconded by President Angell, was largely responsible for bringing the Ann Arbor medical school into the front line and keeping it in the front line for the past fifty years. He brought to the medical faculty many outstanding men, and he created conditions and equipment so that men could work effectively.

Dr. Vaughan's laboratory studies on the chemistry of infections and immunity, water pollution and food poisoning brought him early, about 1880, into the field of hygiene and public health. In this field he labored with intelligence and diligence for over forty years, in the state and in the nation, in peace and in war. In 1886, he wrote a little book, "Healthy Homes and Foods for the Working Classes," an essay which was translated into many foreign tongues. He was on call from the United States Public Health Service and the International Health Board. He was a member, and most of the time president, of the Michigan State Board of Health for thirty-six years. Here as elsewhere, Dr. Vaughan left his mark.

Dr. Vaughan volunteered for the Army in the Spanish-American War in this letter to the Surgeon General of the army: "If there be any need for volunteers for the medical service and I am not too old, I wish to be counted in."

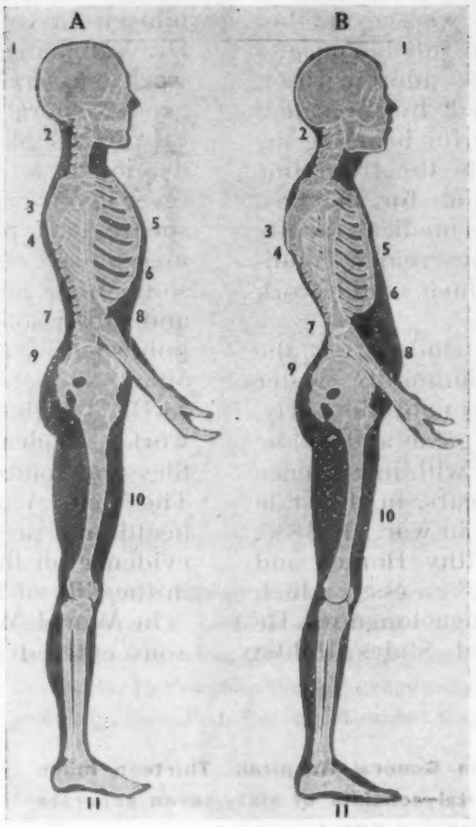
Victor Vaughan was counted in. He saw service in Cuba, was cited for gallantry under fire, observed the ravages of typhoid fever in our army camps, and was stricken with yellow fever himself in Cuba. Fortunately for the nation, Dr. Vaughan survived. When he was able to work once more he was appointed by the Surgeon General, with Drs. Walter Reed and Edward Shakespeare, to investigate the epidemiology and possible prevention of typhoid fever in our army camps. Drs. Reed and Shakespeare took part in the field work, but these men passed on before the work was completed, so the main burden fell on Dr. Vaughan's broad and sturdy shoulders. The completed work was published by the Army in two volumes in 1904. Many competent colleagues regard this report as Dr. Vaughan's most important and enduring work. It clearly proved the relation of filth, flies and foods to the spread of typhoid fever. The Victor Vaughan drive in the field of public health and preventive medicine is still in ample evidence on the Ann Arbor campus, as well as in the City of Detroit.

In World War I, Dr. Vaughan and his five sons entered the army *(Continued on page 153)*

Scene in a busy ward at Vaughan General Hospital. Thirteen miles from downtown Chicago, the hospital consists of sixty-seven separate buildings with a capacity of more than 1,500 hospital beds

GOOD AND BAD POSTURE

Chart and text adapted from publications of the National Committee for Health Education of the South African Red Cross Society



IN the illustration two men are shown. The one on the left (A) stands erect, while the other (B) lets himself go. The first man's posture we call good, and the other man's posture we call bad.

What do the terms good and bad posture mean? To answer this question we have to detail a number of points.

The man on the right (B) 1, is slightly shorter than the one on the left (A)1. This is due to the fact that he stoops; that means the normal curvatures of his spine are exaggerated (B)2, 3 and 7. Thus the upper part (B)3 of his back sticks out, because the thoracic portion (B)3 of his spine is arched more than it should be. The spine of the other man (A) 2-7 shows the same kind of thoracic curvature, but it is arched to a much slighter degree. In other words, the difference between the spinal condition of the two men is one of degree only. Medical men refer to the exaggerated upper curvature of the spine as "kyphosis." In the one case (A), we have a normal amount of curvature; in the second (B) we have an exaggerated curvature, or kyphosis.

If on a normal spine (A), the head is well balanced, the eyes look straight forward. If, however, the thoracic curvature (B)3 of the spine is exaggerated, the eyes will look downward. In order to look straight the head is tilted backward, or hyper-extended (B)2. This hyper-extension introduces an element of constant strain.

If posture is poor the shoulder blades (B)4, which are flat, rigid bone, cannot adjust themselves to the exaggerated curvature of the thoracic spine; their lower portions therefore stick out (B)4. The medical term for this rather ugly phenomenon is "winging."

The chest of the man with the bad posture is conspicuously flat (B)5. This is due to the ribs (B)5, 6 sloping or sagging downward.

In the case of bad posture, a man in order to balance his body and to compensate for kyphosis of the thoracic spine (B)3, must push forward the lumbar part (B)7 of the spine. This results in a marked curvature in a direction opposite to that of the thoracic spine (B)3. This exaggerated curvature (B)7 of the lumbar part of the spine is called lordosis. The spine as a whole assumes the form of an "S" when the curves are exaggerated.

We have distinguished between normal or physiologic (A) as against abnormal or exaggerated curvatures (B), the latter being found in individuals with bad posture. A conspicuous result of such postural maladjustment is a protruding stomach, (B)8. If the muscles forming the anterior abdominal wall are weakened, this feature (B)8, protruding stomach, is emphasized.

The pelvis acts as a pivot on which the spine is balanced. In the case of bad posture (B) the pelvis is tilted forward. This forward tilting of the pelvis adds to the impression of laxity conveyed through bad posture.

Many persons with bad posfure suffer from flat feet (B)11, because the muscular pull which normally holds the arch of the foot (A)11 in position is relaxed.

The principal features of good posture (A) therefore are: (1) advantage in height, (2) erect position of head, *(Continued on page 122)*

Psychological Factors in Weight Reduction

BEFORE		AFTER	
Weight	198	Weight	135
Blood Pressure	170	Blood Pressure	124
Pulse	98	Pulse	78

IN MANY cases of obesity in women, the physician meets psychological complications which must be overcome before proceeding with successful treatment.

By offering women an opportunity to increase personal attractiveness while effecting desired loss of weight, the DuBarry Home Success Course can help the physician solve this psychological problem.

The course is an integrated six weeks' program of diet, exercise, skin care and use of cosmetics, personalized to the needs of the individual.

Every student is advised to consult her physician and have a complete physical examination. If the student has more than twenty pounds to lose, she is asked to have an examination with loss of each ten pounds. In the unusual case of the young woman pictured above, who took the Success Course at her physician's suggestion, six months were required to achieve the desired results.

Like the Hudnut Institute for Dermatological Research...where scientific study of beauty preparations is a continuous project ...the DuBarry Success School is motivated by a sincere desire to provide women with a means to beauty, while taking every precaution to safeguard physical well-being.

Physicians are offered a booklet, "A Psychological Approach to Weight Reduction," which gives further data on the DuBarry Success Course, as well as the Hudnut Institute. Write to: Professional Service Division, Richard Hudnut, 113 W. 18th St., New York 11, New York.

Richard Hudnut

113 WEST 18TH STREET • NEW YORK 11, N. Y.

If you are PAST 40 ...Stop trying to fool your eyes!

Find out about Univis 2-Way* Lenses... the modern kind of bifocals

If you are past 40, and can't see objects clearly at normal reading range—ask your eye-consultant about the modern kind of bifocals called UNIVIS. Learn how the straight-top segment feature of UNIVIS makes it simple and easy to shift from far to near vision without conscious effort. If your "over-40-eyes" need help for close-up seeing, your eye-consultant may decide you should have these more efficient UNIVIS lenses that give you 3 great comfort features.

LEARN ABOUT 3 GREAT COMFORTS OF UNIVIS STRAIGHT-TOP SEGMENT LENSES

1. Checks embarrassing head tilting.
2. Makes it simple and easy to shift from far to near vision, without conscious effort.
3. Checks "bifocal flutter" . . . no long exasperating break-in period.

UNIVIS . . . The Lens with the Straight-Top Reading Segment

UNIVIS 2-Way lenses are made of the finest ophthalmic glass. They have straight-top reading segments. Their manufacture is to exacting standards of precision—there is no finer lens!

UNIVIS

Univis 2-way Lenses

*Reg. U. S. Pat. Off.

HAVE YOUR EYES EXAMINED REGULARLY

The modern kind of Bifocals

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FINEST QUALITY 2-WAY AND 3-WAY LENSES ... AND PRECISION OPTICAL ELEMENTS

Keeping Superfortress Builders Fit

(Continued from page 117)

lose you." Employees who report to first aid repeatedly with the same ailment are advised and encouraged to contact their family physicians for treatment.

The safety engineering department is at work at all times eliminating hazards that might cause injuries. Safety equipment, such as glasses, goggles and asbestos gloves, is supplied by the company, in addition to every possible safety device around machinery. In summer months, salt tablets are provided at all drinking fountains in an effort to eliminate heat sickness. Rigid sanitation inspection also is enforced throughout the plants.

The medical department has found that it often requires more than a smattering of psychology to be a good nurse in an industrial plant. The plant nurses are friendly, like their work, are sympathetic and understanding, and desire above all else to maintain the respect and friendship of every employee. But in the hundreds of cases they handle each day the nurses are bound to run into a few gripers. These are the instances in which a little psychology comes in handy. There are times for giving a friendly pat on the shoulder, and others when it is better to be a little tough. If some fellow is feeling low and reports that he is sick, a nurse may talk with him a few minutes, give him a tablet if necessary and then send him back to his job with a jovial "Go on—get back to work!" Then there are occasions when real sympathy is needed, and the nurses, in their cheery way, know just how to handle these situations too. One staff doctor summed up the whole operation of the department in these words: "The cooperation is swell, and we've run into very few snags. We are here to serve, and we want the friendship of every one."

Good and Bad Posture

(Continued from page 120)

(3) a normal degree of curvature of the thoracic (A)3, and of the lumbar (A)7 spine, (4) smooth apposition of shoulder blades (A)4 on thorax, (5) round and protuberant chest (A)5 and 6, (6) strong abdominal walls (A)8, (7) good balance of pelvis (A)9, (8) strong muscles, (9) well arched feet (A)11.

Physical Fitness

(Continued from page 111)

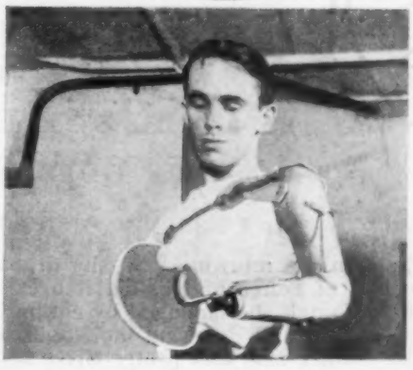
fallen because they have failed to maintain their high ideals for physical fitness for all the people. The United States was carved out of the wilderness by men who were physically fit to pioneer and tackle any task that might confront them. The stress and strain of modern life make weakness more apparent.

The best manhood of our nation is equal to any that can be found in the world, but a nation is only as strong as its weakest groups. Easy opportunity for physical fitness must be provided for everybody. The people must be educated to believe that a physically fit organism is one of the symbols of real Americanism. They must have the feeling that goes along with being fit. They must realize that physical fitness is not something that we can throw off at the end of the war and return to our complacency and the fear characteristic of our isolationist attitude just prior to the war.

The national point of view in physical fitness holds that all of us are responsible. A program on a national level must have as one of its platforms the assumption of responsibility by institutions of all types, and by all our various forms of government. But, above all else, the responsibility of every individual for a personal pride in his own physical fitness must be assumed too. No worker, whether he is in an essential war industry, at home or any place else, should ever be absent from his work or be unable to render a 100 per cent contribution day in and day out because he is physically unfit. America is a champion. Great champions must be ready at all times.

VETS LEARN TO USE NEW LIMBS

The army considers occupational therapy to be of prime importance in reconditioning hospitalized servicemen. A soldier has to be re-taught to use muscles grown soft during long convalescence and to use, if need be, an artificial limb. The routine at Forest Glen Convalescent Center of Walter Reed General Hospital is a typical example of that being carried on in many army hospital centers.



Here Private Joseph Feft of Pittsburgh, wounded at Anzio beachhead, manipulates his hook to move specially-designed checkers of various sizes, weights and shapes. From these large figures he will gradually progress to smaller, harder-to-handle checkers, learning, on the way, ease in opening and closing the steel fingers.

At Forest Glen Convalescent Center, as well as at many other army hospitals, disabled soldiers learn by individually prescribed exercises to use their artificial hands or legs or arms as they would natural ones. Sergeant George Seal, of Milford, Pennsylvania, has had his new arm only a week, but he can already grip and swing the table tennis paddle. Table tennis, with its sweeping arm movements, helps to develop muscle coordination and has proved to be more effective on that score than ordinary exercises of the "setting-up" variety. Such therapeutic measures as this will help to render "disabled" veterans "able" for the ordinary duties of civilian life.

Henry Bass of Hamlet, North Carolina, who lost both hands in a dynamite explosion last February, has learned by therapy and constant practice to handle a cigaret as naturally as ever and to write with enviable legibility.

Mothers Pleased With These Modern Nipples

Using Peter Pan Nipples, their babies nurse easily and naturally. Because these scientific new nipples will not collapse, mothers are delighted when their babies finish their bottles better and gain more weight. Peter Pan is easy to apply on any standard nursing bottle. It grips firmly and will not slip off. Paying a higher price will not get better quality than these pure natural rubber Peter Pan Nipples.

Peter Pan Nipples

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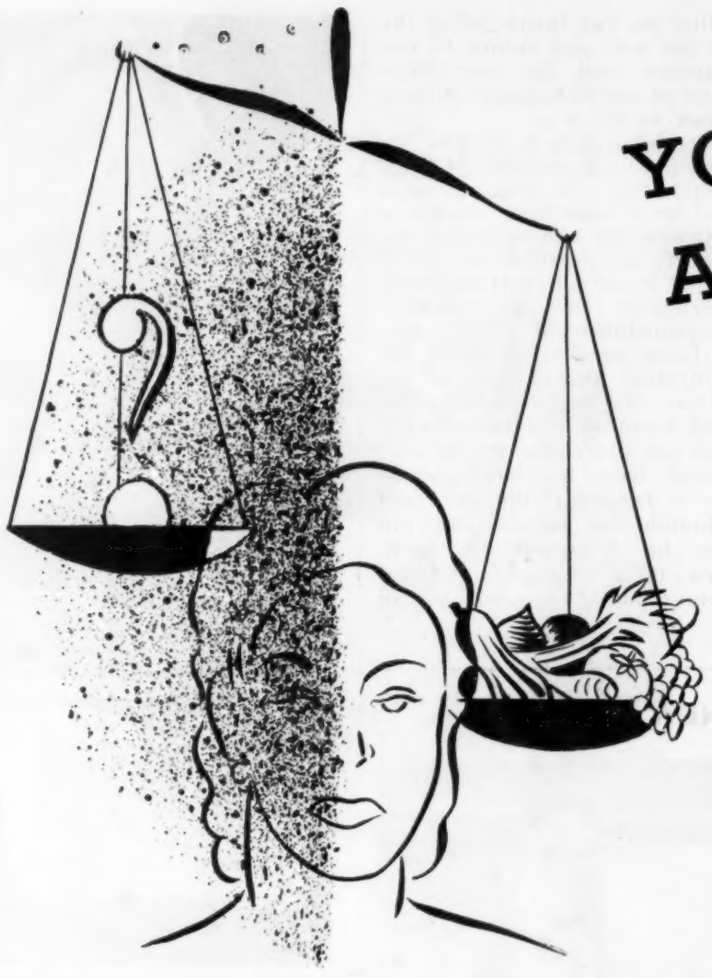

YOUR AMINO ACID QUOTA

By MIRIAM ZELLER GROSS

NUTRITIONISTS may have another lion by the tail. Last time the lion's name was vitamins. This time it is amino acids.

The last lion got away from the control of food scientists and rampaged high, wide and handsome, ridden by the advertisers and the promoters, until corralled by the joint efforts of the medical profession, the government and food scientists. These same food scientists are now watching developments and hoping that the lessons learned at the height of the vitamin craze will help prevent the exploitation of nutrition's recent findings. They also hope that otherwise intelligent citizens will not create a furor for amino acids as they did for vitamins by snatching at tablets, capsules and drops to correct everything from toothache to inability to hang pictures straight.

Like the vitamins, amino acid products are designed primarily for sick people unable to get adequate nourishment through regular food sources. Also like vitamins, amino acids are usually obtained by eating the proper foods. People who suffer from amino acid hunger usually do so through ignorance or carelessness. To cite an example:

Ann Davis, a 19 year old worker in a Philadelphia plant, had two ambitions. She wanted to do something about the war, and she did not want to get fat. It was hard for her to get up in time to be at work by 7:30 in the morning. So she drank a cup of coffee and called it breakfast. Lunch she managed by eating a sandwich and drinking more coffee. By dinner she was pretty tired and did not want to go out. So she fixed something in her room. Not much. But then, as she explained later to her physician, she really did not need much.

Several weeks went by and Ann was not feeling well. Nothing particularly wrong. Ann just felt tired and was not hungry. One week-end when she was at home on a visit she happened to see Dr. Jackson, the family physician.

"Hello, Ann," he sad. "What in the world have you been doing to yourself?"

"Nothing," Ann said, and began to cry.

Nearly three months went by before Ann was able to go back to her job, and when she did she had a brand new ten dollar word in her vocabulary. The word was hypoproteinemia.

Hypoproteinemia, or protein hunger, is really amino acid hunger, and it occurs when we do not get enough of the vital substances to be obtained from eggs, milk, cheese, meat and the other foods. It happens usually because we do not eat enough of the proper foods, although it may be caused by our inability to utilize what we eat.

Proteins must be broken up into other, smaller substances before our bodies can assimilate them. These tiny protein fractions which food scientists think of as "building blocks" are called amino acids. Just as a frugal, conscientious mother cuts apart Aunt Miranda's dresses and Uncle Stephan's coats and trousers to remake garments which her children can wear, so our digestive machinery separates the Sunday roast and cheese soufflé into amino acids so that our blood, bones and all other body fluids and tissues may use these building blocks and rebuild their own proteins. The separation of proteins into amino acids is an intricate chain of chemical processes which begins when the teeth cut up food and it is mixed with saliva, then swallowed and combined with the digestive juices, which decompose the proteins and separate them into their amino acids.

Scientists have discovered twenty-three amino acids so far, but there may be more. Probably all twenty-three are necessary, although it seems imperative now that only eight to ten be contained in our foods. Scientists are not agreed as to whether the nonessential amino acids are not required or are manufactured within our bodies, perhaps from substances gained through the essential amino acids. It is all quite complicated, and some time may pass before nutritionists know the answer.

Rationing makes it important that we select our protein foods carefully. All foods contain proteins, but some have amino acids not found in others. Generally speaking, foods of animal origin contain all the needed amino acids in varying amounts and combinations, but vegetable proteins supplement those of animal origin. Meat does not head the list of important protein foods. If we value the ideal amino acid combination as to kind and proportion at 100, food ratings would include whole egg protein at 91, whole milk at 85, meat (animal tissue) 82, white flour 52 and navy beans 38. It may be years before we know the ratings of all foods, although food laboratories connected with the universities of Wisconsin and Illinois and many others are busily trying to find the answers to these problems.

An Added Advantage of Protein Foods

is that they are not only rich in proteins but also in other essentials needed for good nutrition: vitamins, minerals, and needed fats. When the diet contains an adequate amount of the RIGHT KIND of protein foods, it is reasonably certain that it will also carry a goodly share of these other essentials.* Meat ranks high among protein foods not only because its protein content is so high, and because its proteins are of highest quality, but also because it is an excellent source of the B vitamins thiamine, riboflavin and niacin, and the minerals iron and phosphorus.

*In an article on "Some Medical Aspects of Protein Foods" in the American Journal of Public Health (December 1943), Drs. Frederick W. Stare and George W. Thorn of the Schools of Public Health and Medicine of Harvard University state: "Protein foods are sources of protein, but they are also excellent sources of other important nutrients—minerals, vitamins of the B-complex, and frequently fat and fat soluble vitamins . . . a high protein diet usually results in an increase of other important nutrients and a low protein diet may be deficient in nutrients other than protein."

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO...MEMBERS THROUGHOUT THE UNITED STATES

The case of the cheating patient

Look what he's slipping himself!

A cup of coffee, no less. And only today his doctor told him that, while many people could drink coffee without ill effects, *our friend was not one of 'em!*

If your doctor has said to you, "No coffee—drink Postum instead," may we suggest you follow his advice. Instant Postum's hearty, rich, whole-grain flavor really satisfies—yet Postum, a product of General Foods, contains no caffein—no stimulants of any kind. So easy to prepare—just add boiling water.

Postum

—ONE OF AMERICA'S GREAT MEALTIME DRINKS

Proteins are one of the most important of our food requirements. No other food substance can substitute for proteins; both fats and carbohydrates are important, and these, as well as proteins, provide energy. But we can exist without carbohydrates and the chances are good that we can live without fats. Only proteins can build our bodies and keep them in running order, and we do not survive if proteins are taken away for any length of time. It is important that we eat proteins regularly and that those we eat contain enough of the essential amino acids. We should start each day with a good breakfast which includes eggs and a nourishing cereal or similar food. While proteins are important at all meals, breakfast is mentioned specifically as it is the meal most slighted by Americans, especially those in the age groups which carry on most of our industries.

During the 1920's Dr. W. C. Rose of the University of Illinois had graduate students busy preparing amino acids, and animals were fed diets which included known amino acids. Others were then added, and growth and weight curves were watched. Thus the groundwork was laid for our knowledge of amino acids. Dr. Rose is still studying their exact role in human nutrition. So is Dr. L. E. Holt Jr. of Johns Hopkins University, and it is through these men that we have learned most of what is now known of these important, powerful substances. Scarcity of material, expense and the difficult job of preparing pure amino acids may mean that many more years will pass before we know the entire story. Scientists still cannot give you a list of the things which will happen to you if you are deficient in a particular amino acid. Lacking that knowledge, they warn everybody to play safe and get a good variety of proteins. They believe that a well balanced diet will give us plenty of the essential amino acids.

Proteins were an important "must" in feeding the soldiers of World War I. But most of what we know about the importance of amino acids has been learned during the present war. We know now that it is not important how many pounds of protein we eat but that a definite quantity of a variety of proteins is desirable. It is such knowledge that has made it possible for Army nutritionists to develop rations suitable for men fighting under practically any set of circumstances and adequate for men fighting either in the tropics or in the Arctic regions.

Some vegetables have high protein values, although most of them lack at least one of the essential amino acids, making it necessary to eat a sufficient amount and variety if one must depend on vegetable proteins to any extent. Soy beans are rich in proteins, and millions of Chinese get a subsistence diet by combining them

Photo by U. S. Army Signal Corps, North Africa

What our Army means by "Clean"

Soap and water clean? Naturally! But that's only half of it! ***Equally important,*** mess-kits in our Army must be *germicidally* clean, free from bacteria that spreads disease.

Quickly, easily—only 3.4 ounces of Mikroklene does this job, disinfects the eating gear of 200 men. After washing and rinsing, a plunge in Mikroklene's powerful solution gets mess-kits "Army clean," safely sanitary. Mikroklene, unlike many germicides, remains effective longer, is slow to become inactivated by soap and food residue carried from the rinse. And because Mikroklene wets *quickly,* runs off *slowly*—the solution has *more* time to act, does its work *more* thoroughly.

After the war—or perhaps sooner—Mikroklene will help restaurants and institutions to disinfect hand-washed china, silver, and glass and to sanitize refrigerators, food mixers, stationary equipment.

MIKROKLENE

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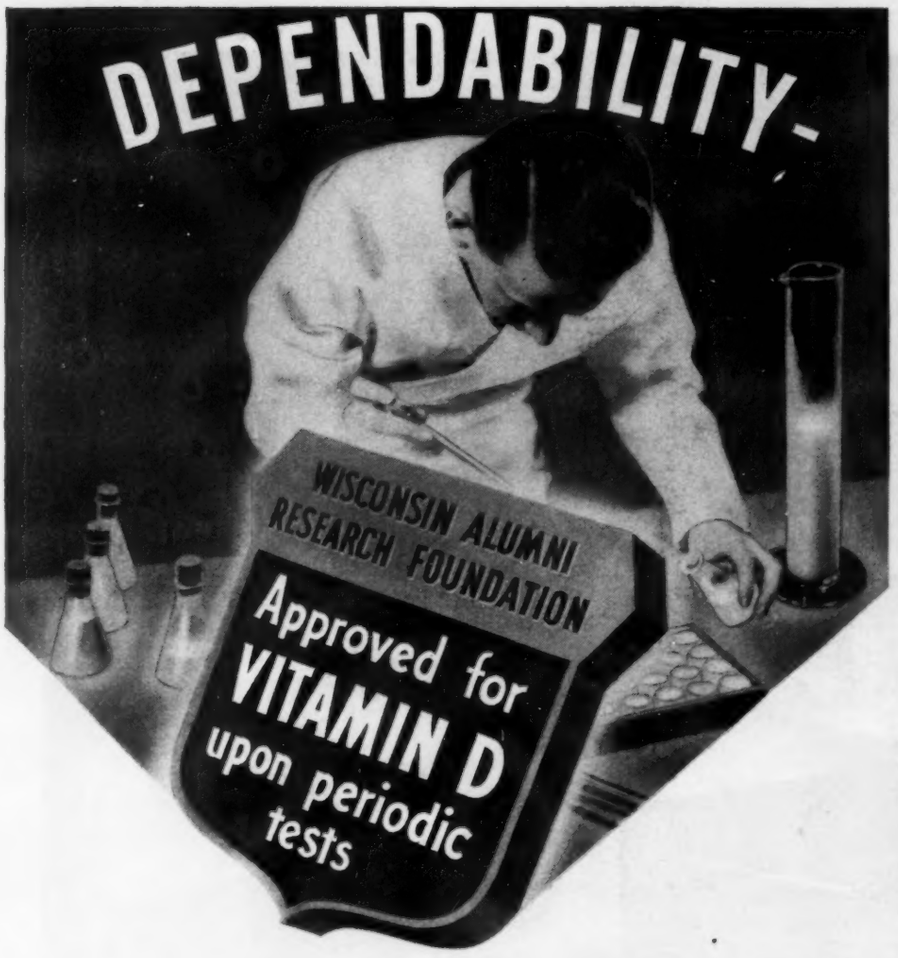

. . . in back of this seal

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and other vegetables. Cereals are good protein foods but lack lysine and tryptophane, two essential amino acids.

All body tissues and fluids except the bile and urine are composed of amino acids, and these body building blocks must constantly replace tissue cells, blood plasma and red blood cells destroyed in the daily wear and tear of living. Amino acid starvation may play a role in tuberculosis, diabetes and other degenerative diseases, and without doubt tens of thousands of Ann Davises have lowered their resistance through inadequate and improper diet.

Important among the jobs done by amino acids is the formation of blood serum proteins which help to regulate the interchange of fluid between our tissues and blood vessels. Protein hunger may upset the delicate fluid balance so that quantities of liquid wander from the blood vessels into spaces in the tissues. This causes the "hunger swelling" our soldiers report seeing among the Greeks and others in devastated countries.

Nothing could be done until recently for amino acid starved people unable to eat proteins by mouth. Because loss of blood, shock and anesthesia make heavy demands on body proteins, an operation might be a "success" and the patient nevertheless might die because of hypoproteinemia, especially if he were malnourished before the operation. Industrial laboratories now have available amino acid solutions which may be used to build up bad surgical risks before the surgeon operates, or to help sustain them following the operation. These solutions of predigested proteins may be used to help nourish people who have been severely burned, those with cancer and others with debilitating conditions which make normal nutrition impossible. The extent to which amino acid starvation is a problem in surgery is illustrated by findings at the New York Hospital for Joint Diseases. Dr. Milton Bodenheimer conducted studies on 215 patients and found all to be protein deficient. While wounds heal at different rates in different people, healing may be seriously delayed in protein starvation, and the breaking open of wounds following operations has been attributed to protein hunger. While the breaking open of operative wounds is a rare occurrence, it is a frightening one and the mortality rate is high.

Our protein needs are high in infancy, adolescence, pregnancy and lactation. Feverish patients burn up proteins more rapidly than normal people do and thus give the lie to the old saying about "starving a fever." The body's needs for proteins are fairly wll established today, although specific requirements for the various amino acids have not yet been determined. General recommendations for the person in average health according to the Food and Nutrition Board of the National Research Coun-

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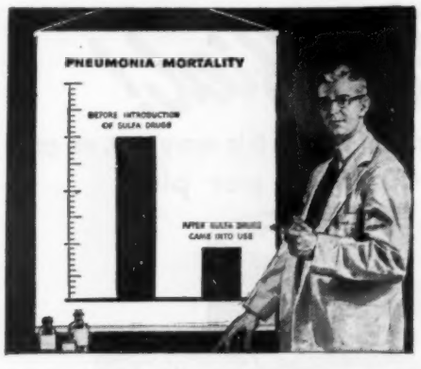
What's this new word *"Chĕm'ō-thĕr'a-py?"*

Medical science is full of strange and unusual words.

One of the most exciting is "chemotherapy." As it may mean a lot to you —you might like to know more about it.

1. Many of our badly wounded soldiers, sailors, and marines owe their lives to new drugs...sulfa and penicillin...which have had spectacular success against perils like gangrene, terrible burns, and blood poisoning. Chemotherapy—which takes advantage of the effects of chemical action upon body tissues and invading bacteria—is ages old in theory. But its modern, most effective practice began soon after 1900 with the discovery of salvarsan.



2. For the 20 years after that, research brought no striking discoveries. Then a strange chain of events revealed that a patented dye possessed a life-saving element. And so, the sulfonamide drugs were made available to the world. In the less than ten years they have been in common use, they have saved countless lives. Some forms of meningitis, streptococcic infections, and other dread diseases including the common forms of pneumonia, have met a powerful adversary.

3. You know the dramatic story of the next discovery, penicillin. Although not strictly a chemical, it attacks some of the same germs as the sulfa drugs—and others against which these drugs have little or no success. But the search for other "specific" chemicals is far from over. Medical scientists constantly seek to improve existing ones and find new germ-fighting elements. There must be long and careful experiments for each discovery, for sometimes the "germ-poison" is poisonous to the human body, too.

4. But chemotherapy is no cure-all. Because it does so much to reduce the deadliness of some of our worst diseases, some people may expect it to perform miracles. It must always be remembered that these chemicals should not be used without sound medical advice, otherwise there may be detrimental results. But chemotherapy, rightly used, is a tremendous gift of medical science to our civilization.

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cil call for 70 grams of proteins daily for a man and 60 for a woman, with changing requirements according to size and occupation. Nitrogen balance determinations tell whether or not we are getting enough proteins. Laboratory tests have been developed to determine whether or not the nitrogen lost through the feces and urine is balanced by our protein intake. If these are not balanced, or better still if we do not assimilate a bit more protein than the amount needed to meet immediate demands, our food habits need a change.

Part of the unsolved protein mystery has to do with the relationship between amino acids and hormones, although we already know that many important gland secretions are composed of protein-acid combinations. Interesting because of their possible bearing on the correction of male sterility are the findings of Dr. Holt and his associates at Johns Hopkins. Their studies suggest that if the amino acid arginine is removed from the diet the number of spermatozoa in the seminal fluid is greatly reduced, but it returns again to normal when arginine is restored to the diet. The finding of large amounts of this substance in the testicular tissues of some fish appears to be further support of Dr. Holt's observations, although certain other investigators have apparently found quite the reverse and will probably publish their results in scientific journals within the next several months.

Fifteen years ago, Dr. Karl Thomas pointed out three questions which must be answered before we have a solution to the protein mystery. The three questions were: Which amino acids must be present in our foods? Exactly how much of each do we need? What is the purpose of each? Thanks to Rose, Holt and their associates, we can now answer the first question. But we still lack answers to the other two. Meanwhile, we know enough about the importance of amino acids so that surgeons can save many patients and our soldiers can be fed at the highest, most efficient nutritional level. Likewise there is enough known about preparing amino acids so that unscrupulous promoters may well launch another buying furor—and the American public may go to bed some night thinking all it needs is a few vitamins, only to wake up the next morning and discover that vitamins are out and amino acids are the thing to buy!

Scientists point out that the important thing to get from their amino acid findings is the realization that it is necessary to eat a balanced diet; that just getting your carbohydrates, fats and vitamins is not enough. Considering the importance of amino acids and the amount of knowledge already gained, industrial laboratories should be commended highly for reserving amino acid products to be administered by physicians for sick people. It will be interesting to see what happens next.

When You Return from the Hospital

When your doctor says you can go home, he encourages you to continue the good dietary habits you learned in the hospital.

To provide you with an incentive to persevere in the intake of a highly nutritious diet, he may suggest

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for your doctor knows that Horlick's is a well-balanced food, supplying biologically complete protein in addition to easily utilizable, partially predigested carbohydrate. Because it is so quickly digestible, Horlick's does not interfere with the next full meal. It is delicious whether prepared with milk or water.

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Bacteriology

(Continued from page 108)

be enlarged so that the original object is magnified as much as 200,000 times. Thus it has become possible today to study somewhat in detail bacteria which by the ordinary microscope were scarcely discernible, and scientists have gathered in large numbers to see objects and structures never before made visible to the human eye. The use of this new instrument is not limited to the study of disease but offers significant possibilities in industry. It now seems possible that the new electron microscope may show us how molecules are constructed and thus enable us to see the fine structure of various new substances developed by chemists, such as synthetic rubber and nylon. There lies immediately ahead the probability that a new world is to be disclosed to us—as new and wonderful as the world of bacteria was to its discoverers, to Leeuwenhoek, to Pasteur, to Koch, to Emile Roux.

Back in the 1870s, when middle-aged Louis Pasteur was giving lectures at the Academy of Medicine in Paris, one of his most earnest students wrote in his notebook that Pasteur's scientific method "resolves each difficulty by an easily interpreted experiment delightful to the mind, and at the same time so decisive that it is as satisfying as a geometrical demonstration and gives the impression of security." The name of this young doctor was Pierre Paul Emile Roux. He was born in 1853 in the western province of Charente and was taken to Aubergne for his education. Later, as a medical student he came to Paris and got a post as clinical assistant at the city hospital. His greatest ambition at 23, quite unknown to Pasteur, was to be admitted in the very humblest rank to the Pasteur laboratory.

As soon as Roux's ambition became known to the great scientist, he invited the young man, as well as two of his colleagues at the Academy of Medicine, to become his laboratory assistants. It proved an admirable arrangement for every one concerned. He taught them how to stain slides, how to focus a microscope, how to prepare the media on which bacteria are grown. In return, they taught him anatomy, the use of a hypodermic syringe and other medical lore. All three turned out to be good bacteriologists, but Roux was the best of them. He took to the science of microbe hunting as a fish takes to water.

Roux was hampered by only one thing—ill health. At 20 he was already suffering from tuberculosis, but since at that time no one had ever seen the germ or evolved a satisfactory treatment, there was little that he could do for himself except cultivate a philosophic attitude, go to bed when ill, cough when necessary and go about his work of fighting less elusive microbes.

The laboratory was always busy. Simultaneously Pasteur was experimenting with sheep anthrax, rabies, carbuncles and chicken cholera. Roux and his friend, Chamberland, were put to nursing the delicate cholera organisms, which they tended with the assiduity given to the offspring of a millionaire. They filled dozens of flasks with their cultures and transplanted them from one bottle to another, until every table and chair was littered with containers. Nothing remarkable happened in the course of their experiments. They were about ready to give up when, just for luck, they decided to inoculate one last batch of hens with some old culture that had been lying about for weeks. The hens became sick, but they had an unusually light case, and then recovered completely.

The next fall, the boys were back at their labors, and, wishing to try out an especially virulent culture of cholera, put in a call to the laboratory zoo for some chickens. There were only a few fresh birds available, so to round out the number, Pasteur had the old birds sent up as well. Both kinds had a shot of the potent virus, but their reactions were entirely different. The new hens got sick and died quickly; the old ones, which had had the disease and recovered, did not get sick at all, but went on scratching blithely in the straw! Two things now seemed clear: first, that the germs which had been allowed to stand for a time had become weaker and gave a lighter case of cholera; second, the birds which had been inoculated with the weakened germs had a lighter case of the disease and after recovering were immune to secondary, more virulent inoculations. The investigators repeated their experiments until they learned how to weaken germs in a scientific fashion and how to measure their potency. Finally, they evolved a vaccine that was standard in its results and certain to give immunity. From a laboratory accident they had developed a reliable weapon in the fight against disease.

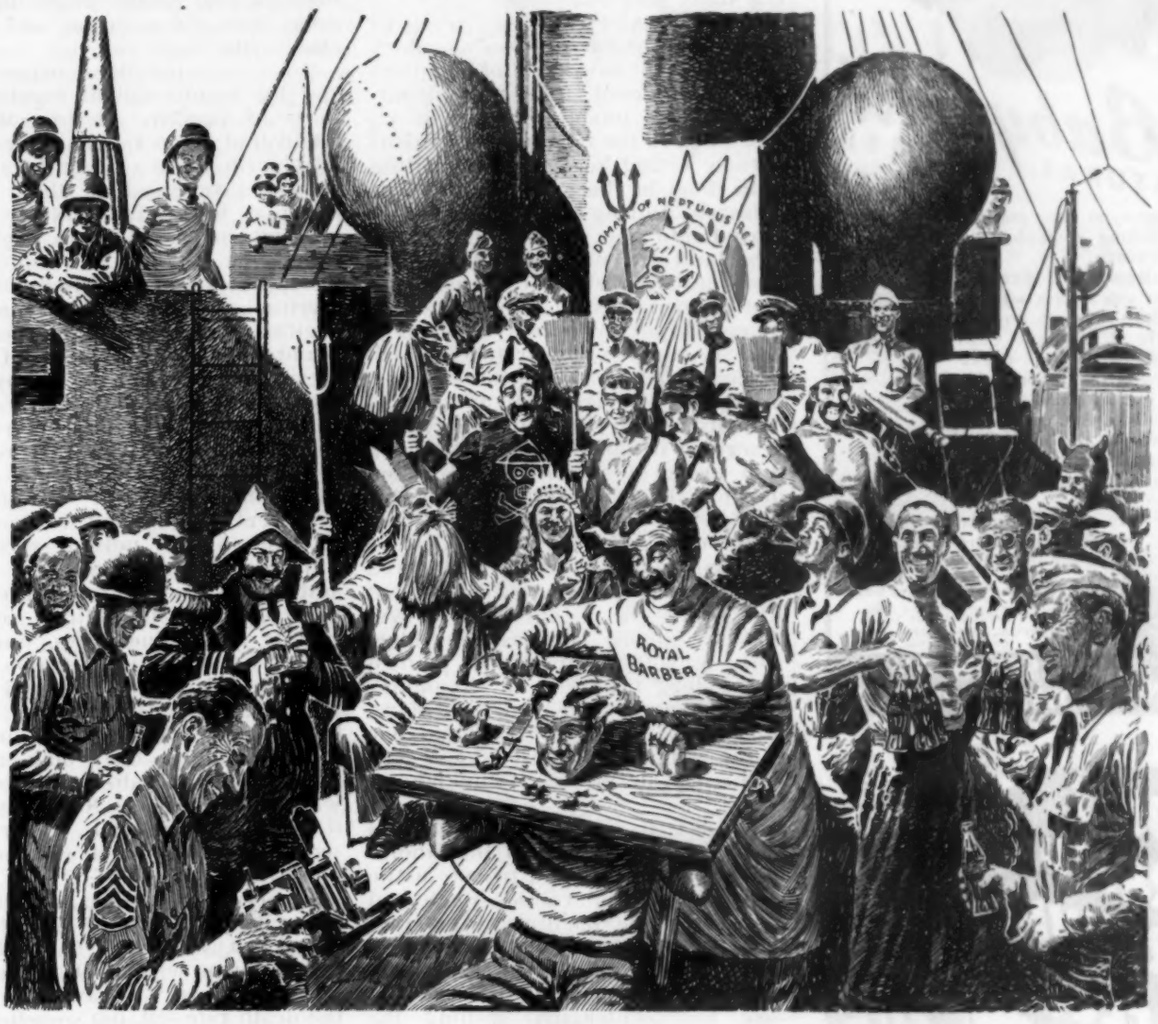
Not all their experiments turned out so well, of course, and some had no tangible results whatsoever. But Roux and Chamberland were learning, and they were willing to perform any work Pasteur might order. Pasteur was anxious to find out if the principle of artificial immunity could be applied to the control of sheep anthrax, which was decimating the flocks in certain provinces of France. Roux and Chamberland were given the care of the new bacillus, a slinky, rod-shaped microbe which arranged itself in long filaments and grew prolifically. Finally a vaccine for anthrax was developed, but before it could be put to practical use, it was necessary to demonstrate to farmers that it was both safe and efficient. Pasteur accepted the challenge to perform a series of public experiments at a farm near Pouilly-le-Fort. A group of fifty or more animals was stationed at the farm. Half of them received inoculations of the vaccine, half served as a control. Then all were to receive inoculations of a potent virus, and the effects in the two groups would be compared.

One day in the spring of 1891, after the inoculations had been completed, the boys accompanied their teacher to the farm, and at 2 o'clock, escorted by a crowd which had witnessed the first inoculation, they went out to the sheepfolds. Even Pasteur was astonished at the phenomenal success of the experiment. Twenty-two carcasses in the unvaccinated group were lying in mute testimony, side by side. In the other enclosure, in contrast, every one of the vaccinated sheep was frisking about in the pink of health! Pasteur and his helpers found themsleves the center of an admiring, congratulatory throng.

Soon after the anthrax experiments, Pasteur set Roux and Chamberland to tracking down the cause and cure of rabies. Together they stained a thousand slides for microscopic examination and ran their preparations through the finest filters, hoping that the microbe might be caught in the precipitate. Since they never had a glimpse of it, however, they were forced to the conclusion that it was what is called a "filtrable virus," too small to see, too small to be caught in the filter. It refused to grow in any of the succulent broths they provided, so they used their laboratory animals as culture media. This they did by injecting some of the frothy saliva from the mouth of a rabid dog into healthy animals. Often, however, the virus failed to reach its mark, and the inoculated animal remained quite well. Then Pasteur suggested a method that might prove more efficient—to introduce the saliva directly into the brain of a healthy animal, for it was known that the virus centered itself in the brain and spinal cord. These experiments, which have since become an important part of scientific literature, resulted in the world-famous Pasteur treatment for rabies. Next to Pasteur himself, Dr. Roux was the man chiefly responsible for this great achievement, which first applied bacteriologic methods to the saving of human life. In 1881 Roux and his friend Chamberland received their first signal honors, the red ribbons of the Legion of Honor, for their work on carbuncle vaccination.

In 1883 Roux went to Egypt as one of three members of the French commission appointed to investigate a fearful epidemic of cholera. The European hospital at Alexandria, full of the sick and dying, was placed at their disposal, and they plunged into work. They prepared slides from the blood and discharges of cholera patients and made post-

Greetings, brother... Have a Coke



...or initiating a new subject of Neptune

It's a fine old custom—the good-natured initiation of those who cross the equator for the first time. In much the same spirit of good-natured fun, people everywhere respond to the invitation *Have a Coke.* That's when friendliness speaks a refreshing language all its own. A pause for ice-cold Coca-Cola is always greeted with a smile in so many places, on the seas and overseas, just as it is in your home. It's a happy symbol among people who understand the pleasant ways of friendship.

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mortem examinations in an effort to find the organism responsible for this disease. Suddenly, as quickly as it had burst into flame, the epidemic subsided, putting an end to their laboratory work. But one of the members of the French commission was stricken and died quickly before the study was completed.

Late in 1887 Pasteur, worn out by his monumental researches on rabies, had suffered an attack of apoplexy which rendered him permanently maimed and unable to continue active work in the laboratory. Duclaux became acting head of the Institute, with Roux in charge of bacteriologic research. During this same year they moved into new and splendid quarters built by popular subscription from grateful private citizens, kings and governments all over the world. A contemporary writer told of a visit to the new laboratory, which he compared to a scientific convent; the workers he likened to an order of "scientific friars." Roux himself he described in this manner: "A great, thin figure of a man, his feet shod in snow boots, a derby hat on his head, over his shoulders large capuchin collars in the military style. You will note the face, a little tired and pale as if from overwork, but still young—he is not yet 41; eyes that are almost colorless but filled with a soft compassion; pointed beard, long features and a monkish cast of countenance and look of renunciation. This is Dr. Roux, one of the eight or ten most famous men of the day, on his way to his laboratory."

While Roux was waging continual battle against plagues in the laboratory, he was fighting a private battle with his own microbes. Koch had discovered the bacillus of tuberculosis in 1882; other workers had studied it, including the German, Ehrlich, who had acquired the disease by accidentally spilling the germs on himself. Roux grew frail in appearance, stoop-shouldered and woefully thin, but apparently he built up a tolerance to the disease, so that while he was never really well, he had a good working capacity.

Now the problem of diphtheria knocked at the door of the laboratory. Paris was in the throes of one of the periodic onslaughts of the disease, and the contagious wards of the two hospitals where diphtheritic children were received were filled with long rows of tiny fever-ridden patients gasping for air through the thick white membranes in their throats. The death rate was high—in the four years from 1890 to 1893 it averaged 51.7 per cent, which meant that for every two babies carried into the hospital with diphtheria only one would come out alive. Roux read accounts of earlier research by Loeffler, who had discovered a tiny, needle-like bacillus in the throats of diphtheria patients and had produced the disease in guinea pigs by inoculating them with some of these same bacteria. But after they were dead, he could never find a trace of the bacteria in their bodies. Perhaps, Loeffler had reasoned, these microbes secrete a substance which circulates through the body and poisons it, even though they themselves remain stationary. Perhaps that poison might be separated from the microbe, and give a clue to the cure.

Roux repeated these experiments, and his results tallied exactly with those of Loeffler. Besides that, he found that when rabbits were inoculated with these strange bacilli, the disease progressed in their bodies much as it did in children. Then he sent an assistant to make the rounds of the hospitals and collect membrane from the throats of diphtheritic children. He found the bacillus just where Loeffler had found it—in the throats of diphtheria patients—but never anywhere else. So he prepared a culture broth and strained it through microscopically fine filters. The tiny bodies of the microbes were retained in the filter, and the filtrate—the material that went through and was supposed to contain the poison—was carefully collected and preserved. Roux and his associates administered dose after dose of this filtrate to their rabbits and guinea pigs, and then waited for something to happen. But nothing did. In a last, wild effort, Roux gave a gigantic dose, 30 cc., to one more guinea pig and one more rabbit. In five days both animals had sickened and died of a disease—without a microbe! Now they knew it was true that the bacteria did secrete a toxin, and it was the toxin that killed.

In Germany another bacteriologist succeeded in producing what he called an antitoxin of diphtheria from sheep serum. However, the new antitoxin was still unreliable; the death rate fell, but sometimes the serum went wrong and did not cure at all. Roux believed there might be ways of improving it. He used horses instead of sheep for his experiments and found that they could produce much greater amounts of serum, and serum of better quality. The new serum was not foolproof and worked best if given early in the course of the disease, yet the efficacy of the treatment was undeniable. The diphtheria mortality among children treated with serum was only 26 per cent, compared to 60 per cent among untreated children. Roux's new antitoxin became a standard treatment for diphtheria, and it is estimated that by this time over a quarter of a million lives have been saved through its administration. Small wonder that when Roux gave a lecture on this discovery at the Congress of Hygiene and Dermography at Budapest, the dignified body of doctors rose from their chairs and cheered!

Roux went on with his study of serums, and shared with Behring, the German, the Nobel prize for their

work on serum treatment. Pasteur died in 1895, and in 1904 Roux became Director of the Pasteur Institute, with its great house in Paris and its twenty-four branches scattered at different points about the world. He was still the searcher who wished for no better world than his laboratory, and the new position hardly altered his way of life. He cared nothing at all for material comfort and was content with a simple, almost severe manner of living. He never married, and had his own small bachelor apartment at the Institute, which served him as office and living quarters. He refused to accept the salary to which he was entitled as director of the Institute: "I really don't need the money," he said. "They give me board, room, light and heat, and whenever I become hungry the maid brings me food. The Institute needs the money worse than I do."

Roux grew old, thin, gray and stooped, but work at the Institute went on under his wise direction. He collaborated with and supervised Metchnikoff, the temperamental Russian, in his researches on syphilis. Metchnikoff was a brilliant worker, but in his enthusiasm he was apt to forget to keep careful records. Always the careful searcher, Roux acted as a ballast to the volatile Russian and saw that his records were straight.

Despite a lifetime of hard, grueling work and a long history of tuberculosis, Emile Roux lived to be 79 years old. He died after an attack of grippe on Nov. 3, 1933. His last concern was over the fate of the Institute he had loved and served so well.

LEARNS TO WALK

Once fitted with his built-to-order prosthesis (artificial limb), the patient at any one of the army's hospital centers is placed in an occupational therapy class where he

learns skill in use of the new appendage. Private Robert Drummond, of Oneida, New York, learns to walk with no limp, using the artificial leg which replaces the one he lost last spring in the Italian campaign.

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New Hope for the Deaf

(Continued from page 99)

bleeding," Lempert warned his colleagues. "All bleeding points must be sealed."

Where Sourdille and Holmgren had operated from behind the ear, Dr. Lempert made his approach directly into the aural cavity. This offered many advantages. Besides leading directly to the middle ear, it involved the cutting of much less tissue. This not only reduced the chances of infection, but caused less inflammation, which was one of the chief causes of the tissue regrowth that formerly had closed the window.

On reaching the bony capsule which contains the inner ear mechanism, working under powerful lights and magnification, Dr. Lempert used a tiny dental burr to carve out a little troughlike opening—slightly larger than a grain of rice—just above the old window. Then he used a fine gold burr to smooth and polish the oval-shaped opening—an important factor in preventing bone regeneration. Finally, he cleared away every last fragment of bone splinter left from the operation.

Seeking a protective substance to line and cover the new opening, Lempert found the very thing he needed—right there along the path to the inner ear. It was a fine, smooth tissue called Shrapnell's membrane—a part of the ear drum. Lempert lifted up this membrane and fixed it in place so that it served both as a windowpane and frame for the new opening.

By 1941, Dr. Lempert had reported a new location for the little surgical window, and using this better technic by the autumn of 1943 had personally operated on 800 patients, and in 70 per cent of these cases practical hearing was restored. Other doctors trained under Lempert had operated on approximately 600 more patients and likewise cured deafness in about 70 per cent of the cases.

Lempert announced that he still was not satisfied; 70 per cent was not good enough. Involved in the failures were complications which Lempert knew he could remove with further study: inflammation of the labyrinth, damage to the hearing nerve, and the persistent closing of the window.

In the *Archives of Otolaryngology* for January 1945 Dr. Lempert was able to announce to the profession that the last complications had been eliminated from his technic and the mystery of the everclosing window finally solved. His announcement contained a starting fact: in order to keep the window open for hearing you must actually close it! To do so he has devised a method closely approximating nature's own. A small piece of cartilage taken from the outer ear is shaped and squeezed into place in the new opening, then the thin piece of Shrapnell's membrane is drawn over and made fast. The cartilage stopple serves as a new stirrup, capable of transmitting sound vibrations to the inner ear; it prevents bone formation and it prevents possible damage to the auditory nerve.

The perfected fenestration technic has been applied in about 50 cases, with practical hearing restored in all cases, some of them now two and one-half years under observation. In each case the window to normal hearing has been opened and has remained so. The effects of bringing "stone deaf" people back into the world of sound are usually dramatic.

The young woman whose story begins this article is typical. At the age of 14, she suddenly developed into a problem child—sullen, inattentive, disobedient. Her grades at school fell off. Finally, a teacher suggested that she might be hard of hearing. Examination by the family doctor confirmed these suspicions. For the next few years the family rushed her from specialist to specialist, until they were forced to accept the diagnosis: "Otosclerosis, with progressive deafness. No effective treatment."

At the age of 24 she was totally deaf in one ear, had only 60 per cent hearing in the other, and was losing that vestige. Lip reading helped. Then a hearing aid was fitted. But even these "crutches" failed to compensate completely for all the disadvantages of the lonely world of the deaf.

Then, last year, the family doctor suggested the Lempert operation.

"You have no idea what a thrill it was to hear the first sound after that magic window was opened," she explains. "It was fascinating, and sometimes terrifying. You don't realize what a noisy world we live in until you return, as I did, to normal hearing after so many years in a world of silence. Sounds in the night, which the normal person accepts or ignores, would awaken me terrified. Then, when I came to my senses, I would lie there gloating over each sound. I could hear again!

"Out of the hospital, it was even more wonderful. I would find myself eavesdropping, merely to hear people's voices; I would go shopping and buy things I really never needed, just to hear the sales girls talk. When I reached home I heard my little daughter speak for the first time. Now I am waiting for even a greater experience: when my husband gets back from overseas I will hear him speak. Our life then will be so different, so much happier!"

During the past seven years, Dr. Lempert has trained about 30 surgeons from various parts of the United States to do the basic operation. Recently many of them have returned to his New York clinic to learn the new technic. The operation now is being performed by skilled otolaryngologists at such medical centers as Rochester's Mayo Clinic, Cleveland's Crile Clinic, Western Reserve Medical School of Cleveland, the Harvard Medical School, Northwestern University, University of Pittsburgh, Boston's Lahey Clinic, the Massachusetts Eye and Ear Infirmary, the Manhattan Eye, Ear and Throat Hospital and Columbia-Presbyterian Medical Center in New York, the Presbyterian and Michael Reese hospitals in Chicago, and several others.

Dr. Lempert and his colleagues are unanimous in stressing two important facts: First, the fenestration operation is intended only for "properly selected cases." By this they mean that careful pre-operative examination must determine that the hearing nerve itself is alive and intact. Only then will opening the window accomplish the miracle of restored hearing. From the records of several thousand cases, they conclude that 98 per cent of cases of deafness caused by otosclerosis can be cured by the operation.

Second, the operation must be performed by a surgeon who has been especially trained in the technic.

"This is one operation that cannot be bluffed," Dr. Marvin Jones reminds the profession. "You can either do it, or you can't. Only those surgeons who have natural surgical ability to the nth degree should attempt it. Only those doctors who are willing to spend months, even years, practicing the technic under competent instruction should attempt this most difficult procedure."

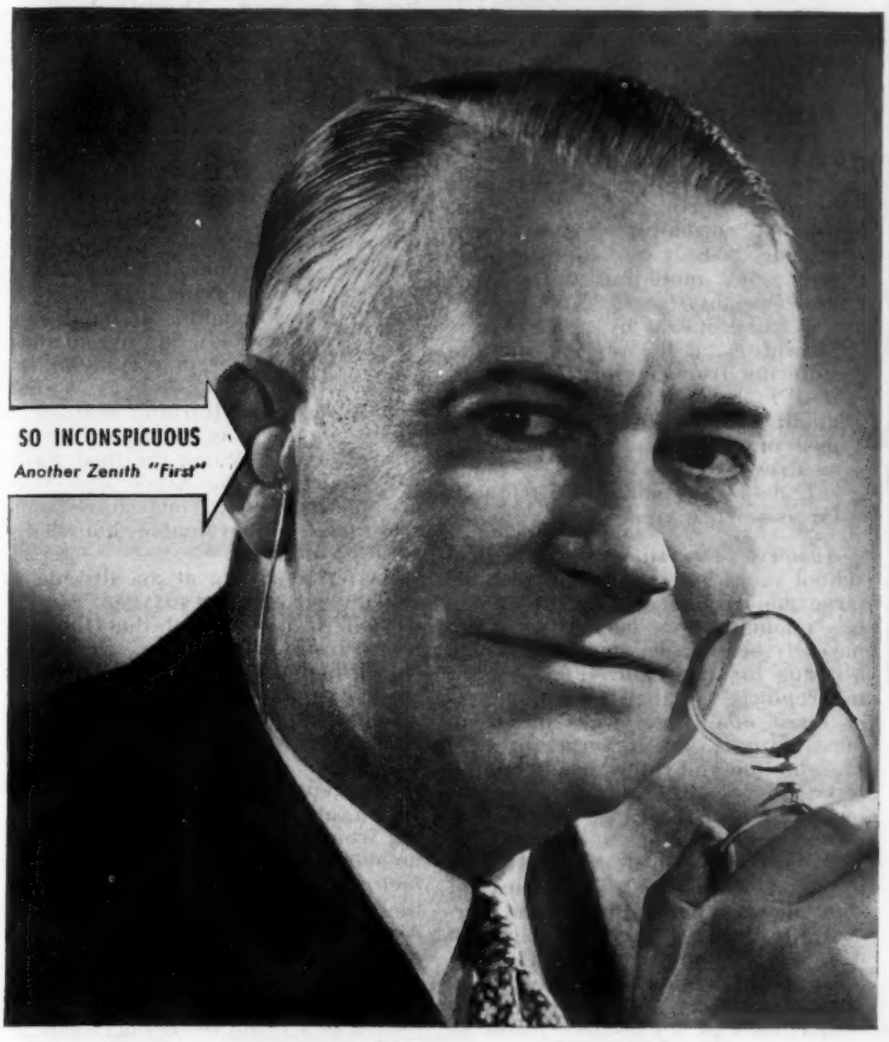
However, in the hands of the competent ear surgeon the fenestration operation is a blessing that has been practically purged of all incidental dangers. The chance of infection is negligible. The operation is bloodless and painless. The operation is never performed on both ears at the same time. Functional hearing is restored usually by the fenestration of one ear; thus the patient is left with a "spare" ear which need be opened only if absolutely necessary.

For the first time in medical history the doctor no longer needs to look dolefully at a case of progressive deafness caused by otosclerosis and inform his patient that there is no cure, no hope but lip-reading or a hearing aid. Just as cataracts no longer mean sightless eyes, so otosclerosis ceases to condemn its victims to the world of silence. The medical profession has thus come a long way nearer to fulfilment of the ancient promise that "the blind shall see and the deaf shall hear."

Now—as Little Noticeable as Eyeglasses!

NEW ZENITH *NEUTRAL-COLOR* EARPHONE and CORD

Attracting More and More Thousands to Wear a Hearing Aid



ONCE AGAIN, a great Zenith advancement is opening up to *new thousands* the joys and advantages of a hearing aid!

First to lower the *cost* of better hearing within reach of all, now Zenith sets a new standard of *smart appearance* that enables you to wear a hearing aid with poise and self-assurance. So inconspicuous is Zenith's new Neutral-Color Earphone and Cord that it is actually *as little noticeable as eyeglasses!*

It brings to the hearing aid a new look of youth . . . makes it more popular and casual than ever before.

In place of the old black button, this new ensemble introduces a streamlined, complexion-tinted plastic earphone . . . light, comfortable. Gone, too, is the old black cord—replaced by a translucent plastic cord that is perspiration-proof, fray-proof, kink-proof—gives less friction or clothing noise than any fabric-covered cord.

No longer is there any reason to deprive yourself of an aid to better hearing. Ask the Zenith-franchised dispenser near you for a *free* demonstration of the smart looking, superbly performing Zenith Radionic Hearing Aid. No obligation! Send coupon below for dispenser's name and free literature.

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Like your watch, this hearing aid is a product of precision mass production. If only a few were made, it would cost many times more, be far less accurate—as Zenith proved when it applied precision mass production to lower the cost of a $200 radio to $29 and make it an *even finer* instrument. Now Zenith combines precision mass production with a revolutionary sales method which *eliminates* salesmen's high commissions and other expensive selling costs . . . to bring you at $40 to $50 an *even finer* hearing aid than our original $50,000 model. Remember—Zenith leads the world in precision mass production of Radionic products exclusively.

There are cases in which deficient hearing is caused by a progressive disease and any hearing aid may do harm by giving a false sense of security. Therefore, we recommend that you consult your otologist or ear doctor to make sure that your hearing deficiency is the type that can be benefited by the use of a hearing aid.

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QUESTIONS AND ANSWERS

Pneumothorax

To the Editor:—May I request from you some information concerning spontaneous pneumothorax—50 per cent collapse of the left lung?

Is there a known cause? Could flying at an altitude of 14,000 feet without oxygen be a cause or a contributing cause? Could underweight, overstrain, a period of two weeks averaging five hours sleep a night, after seventeen months training, be a cause, or a contributing cause?

Is six weeks of part rest in a hospital, during which the lung inflated normally, enough convalescence? Is it safe to go back to duty, not including flying, still underweight?

What is meant by "There is no indication, at the present time, of suffering from a tubercular infection"? Does it mean the patient might have had tuberculosis in the past or might have in the future as a result of it?

I shall appreciate the truth as far as science knows it.

Florida.

Answer.—The student in medical school years ago was taught that the large majority of cases of spontaneous pneumothorax occurring in apparently healthy persons were probably due to unrecognized pulmonary tuberculosis. At that time, diagnoses of chest conditions were based almost entirely on history, physical examination and rather crude laboratory tests of the sputum. The determination of the cause of this condition was altogether speculative.

Today, while doctors are still in the dark as to the exact cause of spontaneous pneumothorax, the stereoscopic x-ray film, the tuberculin test, the bronchoscope and many other refined laboratory procedures give enough evidence to rule out tuberculosis as a causative factor in the majority of cases.

Among some of the reasons for this change of opinion may be mentioned: Spontaneous pneumothorax occurs rarely in women, although the death rate from tuberculosis in the 15-35 age group is higher in women than in men; the tuberculin test is frequently negative in these cases; on x-ray examination the collapsed lung rarely shows any evidence of adhesions to the chest wall, so common in tuberculosis.

The statement that spontaneous pneumothorax rarely happens to a normal lung is probably true. Some weakness in the ruptured air sac must exist before it breaks. Formerly, this weakening agent was thought to be tuberculosis. Today, the latter being ruled out, other possible explanations for the ruptured lung must be considered. Some time ago physicians engaged in research presented an interesting hypothesis as to the cause of pneumothorax. According to their theory, sudden and severe exertions, such as heavy lifting or pushing, athletic contests, and even hard coughing or sneezing, may rupture the muscle fibers covering the air vesicles at the tip of the lung. This produces an air blister or "bleb" on the surface of the lung. The air blister may remain there indefinitely, and frequently it is found unruptured in postmortem examinations made for various other causes. But if this blister ruptures during some severe exertion, it produces the spontaneous pneumothorax at that time. On the other hand, in many patients this accident has occurred while sitting, walking or even lying in bed.

It is questionable if conditions such as underweight and loss of sleep could be considered a contributing cause. Hard work such as is incidental to Army training may be a factor if there is anything in the above theory. When the final medical reports of the Army and Navy are published, we may have some additional and valuable knowledge on this subject.

As far as flying at an altitude of 14,000 feet without oxygen is concerned, it is doubtful that there is any causal relationship. Theoretically, there is no good reason pneumothorax should occur in higher altitudes; the lack of reports that it does occur while flying seems to confirm this.

The report that "there is no indication, at the present time, of suffering from a tubercular infection" was no doubt intended to give the satisfactory and encouraging information that tuberculosis was not present. Also, perhaps the tuberculin test was negative, practically excluding tuberculosis as a cause. There is no reason to believe that tuberculosis will follow as a result of this accident.

Six weeks rest is usually ample time to avoid the development of complications. A number of such patients make a perfect recovery in spite of continuing at their daily occupations, although this is not advisable. Flying should be avoided for some time after the accident.

Spontaneous pneumothorax is a condition which occurs most frequently in apparently healthy young men. The exact cause is not known, but tuberculosis can usually be ruled out by a careful examination. Complications are not common, but some patients may have one or two, or more, recurrences.

Shrinking Uterus

To the Editor:—Following the birth of a child nine months ago, I have been told that my uterus is rapidly shrinking and in order to remedy this condition, I must become pregnant immediately or I will not be

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able to have any more children. If I should wait at least two years, would it be absolutely impossible for me to become pregnant again? Would "shots" to make me menstruate keep my organs in normal condition, or is this a useless procedure? If I would become pregnant immedately, could I be reasonably sure of a safe pregnancy?

Washington.

Answer.—After a normal pregnancy and confinement the uterus shrinks rapidly. This involution is helped along by nursing the infant, a physiologic phenomenon designed to prevent infection, and probably serves in a manner also to limit conception in some cases. In the normal patient, the uterus has returned to its earlier nonpregnant size about three months after a confinement. Prolonged nursing (one to several years) may result in an abnormal decrease in the size and difficulty of conception. Primitive races knew of this latter tendency, and it was used to space pregnancies, but not always successfully.

It would be extremely unusual for a uterus to continue shrinking in size, as determinable by any ordinary methods, nine months after confinement. It is time, however, to stop nursing the infant. There need be no worry about fertility from this cause; whether or not treatment is needed can be determined only by the doctor who has examined the patient.

Reading for the Blind

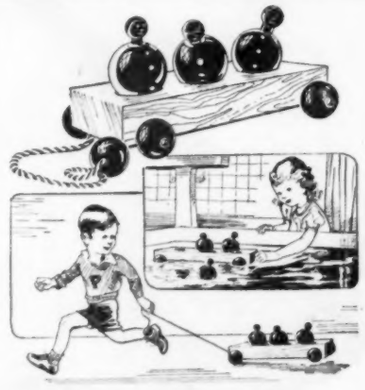
To the Editor:—I have heard there is a study termed Moon Reading for those who are losing their vision. The libraries and chamber of commerce here cannot inform me where I may obtain an instructor or instructions in this method. I just began to acquaint myself with Braille, but Moon Reading was described as simple for one in the late fifties to learn—so I decided to find out for myself.

Illinois.

Answer.—The Moon System of printing for the blind was originated in England, and practically all the material is still printed in London. However there is a limited amount available in this country.

It utilizes the English alphabet (with a few contractions) in raised form, rather than the dot system of Braille. It is simpler and easier to learn than Braille, particularly for those who do not have an acute sense of touch, but reading is much slower than in Braille.

In Illinois inquiries directed to Mr. Raymond Dickinson, Division of Visitation of Adult Blind, 176 W. Adams Street, Chicago, will bring complete information about training facilities. Instruction is given free to residents of the state when it has been determined that this is the desirable procedure for the person concerned.



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How much do you know about YOUR CHILD'S hearing?

AUTHORITIES REPORT MOST HEARING LOSSES GO UNRECOGNIZED, UNCHECKED —YET EARLY CARE MAY AVERT DEAFNESS OR FAILURES IN SCHOOL AND LIFE

Examination by the audiometer accurately reveals the extent of existing hearing loss, and subsequent examinations show progressive loss or improvement. Examination provides a scientific basis for medical care and remedial instruction.

Hearing Loss Corrected for a Full, Active Life—Almost complete correction is possible in many cases of considerable hearing loss. The music teacher in this photograph wears a Sonotone. But *many* modern hearing aids bring excellent correction, if their use is medically indicated and they are properly fitted to minimize the actual hearing loss after skilled examination.

Is your child's hearing safe? In a recent study of pre-school children with hearing impairment, only 20% of parents knew their children's handicap!

Discovery in childhood, followed by competent medical care, will prevent much adult deafness. In Sweden, where school children's hearing is tested annually and clinical care is unfailing, only 15/100ths of 1% of all children have sufficient hearing loss to require special teaching. In our own country, where most schools have no rounded program of examination and medical follow-up—*ten times as many children* are estimated to have *definite* hearing impairment. This figure may be multiplied for *threatened* impairments.

What should you do for safety? By all means, have your child's hearing expertly examined. (A report on Ohio schools recommends testing at three years of age and annually thereafter.) If the child seems "backward" or slow to respond at home or school—if his speech or vocabulary are defective—if he is unusually shy or retiring—poor hearing may be the cause. Examinations are also definitely needed if he has ever had measles, chicken pox, scarlet fever, whooping cough, colds or infections after swimming. If hearing loss is discovered, give your child the care your otologist advises *without interruption.*

What should schools do? A very few of our most progressive States provide audiometric hearing examinations annually for all children, regular medical treatment, and special classes for lip-reading, speech instruction, and vocational rehabilitation. Lip reading is an important assistance whether or not a hearing aid is used. The Chicago Public Schools have experimented with the use of hearing aids for children with serious loss—and found "marked improvement" in alertness, happiness, personality and participation in school activities. Only a *complete* program avoids failure. *Such a program has been proved to be State economy—not "expense". Urge a better program for your State through your clubs or P. T. A.*

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Pennies Pay the Doctor

(Continued from page 103)

less in the long run. (7) The plans are a preferential substitute for government control. (8) The patient-doctor relationship is kept intact. (9) Plans provide family coverage.

These are the reasons subscribers give for favoring the plans. What about the doctors? Spot surveys of doctors in regions where plans are operating show that 76 per cent of the doctors say they are as well off—and that people are better off—through operation of the plans. In fact, 71 per cent believe that all the nation's industries should operate prepayment plans for employees, both for medical care and hospitalization.

Employer attitudes toward insurance programs are now being studied by research experts. Already, results indicate that industrial leaders favor such programs because: (1) the value received is altogether disproportionate to the low cost; (2) such programs improve management-labor relations and directly affect the health of the workers. Better health for workers means greater production—and better business for the employers.

Of 1,050 concerns employing over three million workers, 93 per cent say that the operation of their employee insurance programs has definitely improved the morale of their workers. These concerns employ 99 per cent of the total number of workers involved. According to 94 per cent of employers the program has been an important factor in bettering employer-employee relations.

If you are employed or a member of your family is employed, it is almost a sure thing that you can get your medical care on a prepayment basis. Listed below are the various types of plans that are interested in enrolling you:

1. The statewide or local area medical society plans.

2. Insurance companies that accept only fairly large groups of employees. Ask your employer why the group life program in your plant or office doesn't include surgical or medical care. Most large insurance companies have had sufficient experience to make their rate and benefit schedules actuarially sound.

3. If your worker circle is less than the required number for enrolment in group 2, you can get a "wholesale policy" or a "limited group policy" from any of a number of good, reliable insurance firms serving this smaller market. Ask your life insurance agent to recommend one. For your own peace of mind, and for assurance of payment when you are ill, ask to see the insurance company rating in the Argus Chart or the Spectator Pocket Register; these are reliable reports of insurance company operations. The firm that has reasonable cost of operation and fairly generous payment of claims is the one to be preferred.

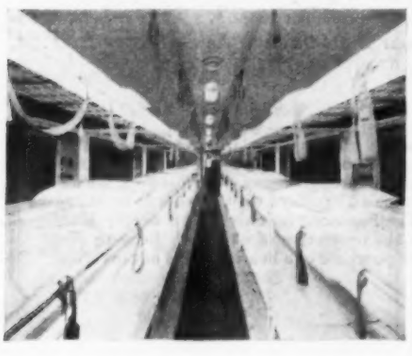
4. If you are not employed and are thus unable to associate yourself with others in the formation of a group—there are individual policies you may purchase. Subject these to the same test recommended in group 3. However, remember that you as an individual are a greater risk than you would be as employee no. 150 in a plant of 1,000 workers. The individual purchaser of medical insurance is more likely to be one who suspects that he may need medical care than is the purchaser who joins a group plan simply because it is made available to him; thus individual rates are much higher. Be prepared, then, to pay more for less insurance than you can get on a group basis.

In summary, millions of people have found satisfaction with the insurance principle applied to the field of health. Some 17 millions have hospitalization insurance through the Blue Cross plans. An equal number are insured in commercial insurance plans. In the medical-surgical care field, over three million people are now protected by enrolment in medical society plans, and 5,400,000 have similar commercial coverage.

Doctors say that freedom from economic worry results in speedier recoveries. Fortify yourself now against such worry by subscribing to the best plan or program available to you.

NEW HOSPITAL CARS

The first of the army's new unit type hospital cars, each built to give thirty-eight battle-sick and wounded patients the ultimate in comfortable, convenient rail transportation, have recently been put into service. The new hospital car costs approximately $57,000, and its design includes two rows of triple tier beds; two compartments with three beds each; a kitchen equipped with refrigeration, ice cream cabinet, coal range and necessary cooking utensils and supplies; a receiving room with four-foot side doors for loading and unloading litter patients; two roomettes, each with a toilet and shower for attending officers or seriously ill patients; and a baggage compartment.



Question Box on Feeding Babies

By Meredith Moulton Redhead, Ph. B.
Baby Food Counselor of Heinz Home Institute

QUESTION: When is the best time of day to feed the baby his serving of strained vegetables?

ANSWER: There is no hard and fast rule concerning the proper time of day to feed strained vegetables, it varies with the individual baby. But whenever possible, include strained vegetables during the two P.M. feedings, as this time more nearly corresponds with the hour you will be feeding him his vegetables when he reaches the three-meal-a-day schedule. Heinz Baby Foods readily fit into a strictly baby schedule of meals, or later on into a more adult plan of eating.

QUESTION: If the baby absolutely refuses to eat strained vegetables without the addition of salt, should it be added?

ANSWER: Baby foods are generally prepared without any seasonings, because highly seasoned foods may be hard on the digestive system. Yet if the baby persistently refuses to eat unsalted foods, add a very small amount. And as each new food is included in baby's menu, try to teach him to eat it unseasoned. You'll find Heinz Strained Foods have fresh, inviting flavors which just naturally appeal to baby. For only choice, specially grown vegetables—hurried to Heinz kitchens within hours of harvesting—are good enough for Heinz Strained Foods. There is a sufficient variety of fruits, vegetables, meats and desserts to hold an infant's interest!

QUESTION: Why can't a baby go right from strained foods to table vegetables?

ANSWER: Regular family meals are too highly seasoned for baby. And unless great care is taken to cut the food into small pieces, the baby is apt to choke or swallow unchewed particles. Heinz Junior Foods solve these problems perfectly. They are mildly seasoned—highly nutritive—and chopped to a size that promotes chewing yet minimizes the likelihood of choking. Made to special recipes, Heinz Junior Foods furnish the toddler a well-balanced menu—including chopped vegetables, meat and vegetable combinations and tempting desserts.

HOW TO ASSURE SOUND TEETH FOR YOUR BABY

By Meredith Moulton Redhead, Ph. B.
Baby Food Counselor of Heinz Home Institute

YOU MOTHERS know that because a baby's teeth begin to form during prenatal life, much stress is placed on your well-balanced diet during pregnancy. Also the baby's *own* diet continues to contribute building material for proper development of his teeth. So it is important that he receives foods which will not only supply these essential nutrients but also provide chewing exercise. That is why Heinz Strained Foods are scientifically cooked to preserve a high degree of vitamins and minerals. And it also explains why Heinz Junior Foods are chopped to a particle size that will encourage baby to use his new teeth . . . Heinz Baby Foods—backed by a fine 75-year-old tradition of quality—are prepared with careful attention to *all* of baby's body-building needs.

Notice the difference in flavor, color and texture of—

HEINZ BABY FOODS

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Test for Parents

By BERNARD HIRSHBERG

In every family, problems occur in connection with the handling of children; often parents are perplexed about what to do, and yet know it is important to take the right steps. Here are a few such problems—on which you can test your judgment as a parent. Read these test situations, then mark the answer you think is right in each case.

I.

George, your oldest, is in the thick of it in the Pacific. You notice that Grace, your young daughter, has gotten into the habit of saying to you, "Don't worry, Mom. Everything will be all right." How would you interpret her words?

1. Realize that you show evidence of fear?
2. Start to hide your fears from the family?
3. Hope for the best and radiate this feeling for all the family to share?
4. Tell Grace that she musn't get jittery about her brother?
5. Go about your tasks as usual, matter of fact, buoyant and cheerful?

II.

Mabel seems to have a knack for doing everything wrong. When neighbors visit your home, Mabel's awkwardness embarrasses you. What would you do to do away with Mabel's awkwardness?

1. Send her to her room when visitors come?
2. Have a daily lesson in conduct, before visitors?
3. Punish her for every mistake.
4. Concentrate on one correction at a time?
5. Make a joke of the entire matter?

III.

James is one of that army of youngsters who, seeing a poor, lonely, lost dog, brings him home, only to find that his mother doesn't wish to have a dog in the house. What would you do about this situation?

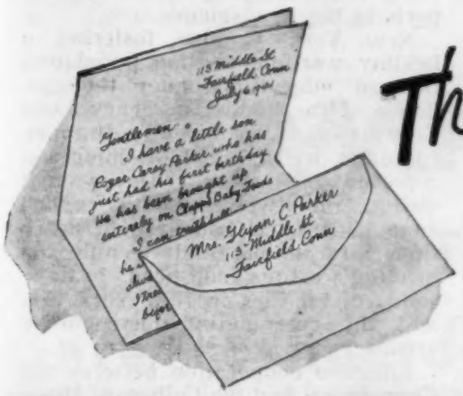
1. Put the dog out on the street and forget about the episode?
2. Let James keep the dog as a house pet?
3. Explain to James the reasons you do not care to have a dog in the house but promise to get him another pet?
4. Punish James for bringing the animal into the house?
5. Allow James to keep the dog for one day?

IV.

Bernice came home from school all excited about the Fire Prevention composition she had to write, and began to pester her mother with questions about Fire Prevention. What would you do in such circumstances?

1. Inform Bernice that it was she who had the home work assignment, not you?
2. Inform Bernice that you didn't wish to be bothered ?
3. Help her write the composition?
4. Make the homework assignment an object lesson in "safeguarding the home"?
5. Offer to read her composition when she finishes it?

Now Turn to Page 155 and Check Your Answers with the Ones Chosen by Child Care Experts



The most particular baby in Fairfield, Conn.

Underneath these pictures you will read the exact words of an unsolicited letter written by Mrs. Glynn C. Parker, of Fairfield, Conn., to the makers of Clapp's Baby Foods.

"I have a little son, Roger Carey Parker, who has just had his first birthday. He has been brought up entirely on Clapp's Baby Foods. I can truthfully say that he is very particular about his food.

"Once I happened to get another brand of spinach, and he refused it. I'd heard that many babies dislike spinach, so I wasn't worried. But since he always enjoyed other vegetables, I tried an experiment.

"I obtained a jar of Clapp's strained spinach, and he actually ate it with great enjoyment. The same thing happened with prunes. I was interested, so . . .

"I tasted different brands myself, and even I could see the different flavors in different brands. So it's readily understandable how a baby's keen taste will pick out what he likes.

"These pictures of our Clapp's baby were taken on his first birthday. Doesn't he look healthy and strong? He weighs 30 lbs. and is 32 inches tall. We feel it's all due to good, nourishing foods—a lot of variety—and flavors so delicious a baby loves them all.

"Roger eats regular meals—and on schedule! For breakfast he has Clapp's cereals. For lunch he has 2 Clapp's vegetables and a Clapp's meat-and-vegetable dish. Clapp's chicken soup is one he loves especially."

Why your baby will thrive on Clapp's:

- We make all our baby foods to fill doctors' requirements.
- We make them even better than doctors require.
- We make every test we can, because we *want* to.
- We discard many fruits and vegetables that would be perfectly acceptable for adults, but not, in our judgment, for Clapp-fed babies.
- We control the growing of our foods so that we can keep an eye on them, from the seeds up.
- We believe our business is the most important business in the world. For 21 years it's been our *sole* business, not a side line.

- Perhaps this is why so many thousands of doctors prescribe Clapp's Baby Foods regularly.

Millions of babies have been raised on

CLAPP'S BABY FOODS

He gets more good from a contented feeding time

Guard Your Baby against bottle colic

He's too *little* to struggle with jerky, spasmodic feeding. And he hasn't learned not to swallow air.

Help him, mother . . . by giving him his food from Pyrex, the nursing bottle with the Patented Air Vent that prevents nipple collapse. This exclusive Pyrex feature assures a steady flow of milk without air. Your baby takes his food easily and comfortably...you don't have to worry about bottle-colic.

All Pyrex nursers have flat sides to prevent rolling. Rounded inside makes cleaning easy. Chill-resistant and heat-resistant. Replacement guaranteed if broken from temperature shock. Complete 6-unit Layette Set only $1.20.

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BRIMFUL of VITAMIN C
and rich in dextrose
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These pure orange, grapefruit and blended orange and grapefruit juices furnish vitamins A, B and C. In addition they are rich in dextrose, food-energy sugar.

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Sizes 1, 2 or 3..... $3.95
"It solves a difficult problem"

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908 W. VAN BUREN ST. • CHICAGO 7

Studying About Foods

(Continued from page 97)

an adequate, nutritious diet. Our neighbor to the north has created the Canadian Council on Nutrition, which has made timely recommendations in the field of industrial nutrition. Our own Nutrition and Food Conservation Branch of the Federal Food Distribution Administration in Washington has undertaken valuable study of national diet needs. The significant nutritional work being carried on by other governmental agencies, together with the factual reports and findings of the National Research Council, has made a far-reaching contribution to our national welfare.

Today, nutrition is the concern not only of our federal government; state governments too have prepared the way for the spread of dietary education through the establishment of nutrition branches in their health departments and the creation of special committees whose specific functions are to investigate and report on the best ways to meet nutrition needs.

New York in 1942 saw fit to establish the New York State Joint Legislative Committee on Nutrition pursuant to a resolution introduced in the state legislature by the author. The immediate objective of the committee was, in the words of the resolution, to "determine the proper role the state should play in putting the relatively new science of nutrition to work in promoting the health of our people."

Since its creation, the committee has made extensive investigations, seeking the best possibilities for government, assisted by private agencies and supported by enlightened public opinion, to bring proper food within the reach of all the people of the state.

The 1943 report of the committee, entitled "The Nutrition Front," contains specific recommendations for the coordination of all state nutritional activities on a permanent, practical basis. The report has received wide acclaim among nutritionists and others because of its many fact-conveying articles by experts in the new science.

New York is also fostering a healthy wartime civilian population through education under the guidance of the State Emergency Food Commission. Just recently, the metropolitan division of the Commission reported to Governor Dewey that during the twelve months ended June 15, 1944, it had brought nutrition information and technic on meeting wartime food needs to thousands of families in New York City and the surrounding metropolitan area.

Effective cooperation between the Commission and the College of Home Economics at Cornell University was achieved when the Commission assembled a staff of Cornell nutritionists to carry out the program. Besides aiding the family kitchen, the work of the Commission extended to industrial plants. In response to a request from the New York State Department of Labor, the nutritionists were sent into factories to give instructions on needs for the right kind of food to war workers, and to distribute home material for the workers' families.

Of marked significance in the promotion of research and the expansion of dietary education are the many private agencies now functioning. The Nutrition Foundation, Inc., with executive offices in the Chrysler Building, New York City, heads the list. The Nutrition Foundation was organized with a view to develop and support a comprehensive research and educational program in the science of nutrition. Part of the work is planned to deal with nutrition in its immediate relation to public health. Another part is concerned with exploratory research that should lay a foundation for better health and scientific guidance in the food industry of tomorrow.

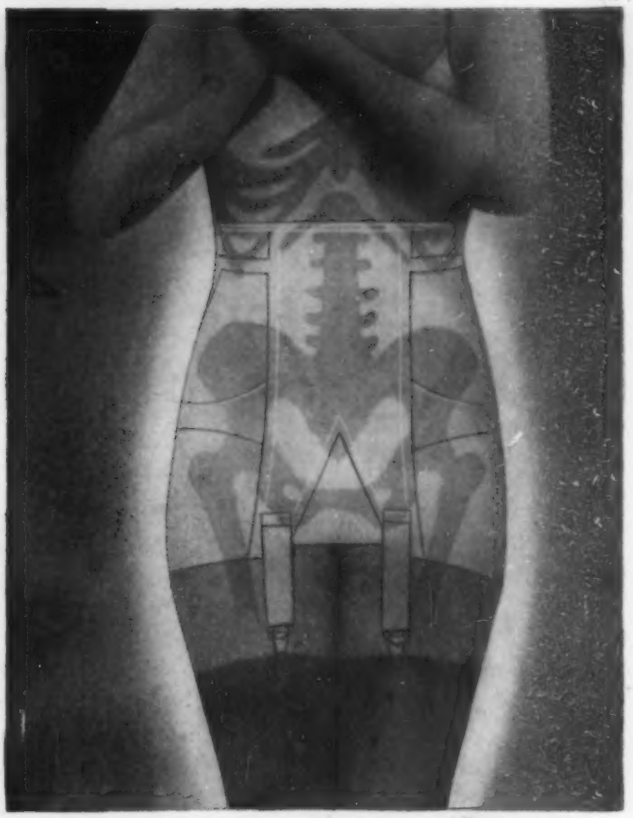
The new education, now in full stride, has come into its own with a profound recognition of its full worth in our national health by educators, government, private agencies and the people. Stimulated interest and diligent research are constantly opening up broad vistas where lie the secrets of better diets for better living.

ANTI-LEPROSY PROGRAM

A five year postwar anti-leprosy program for the improved treatment and prevention of leprosy in eight countries was announced recently by the Postwar Policies and Program Committee of the American Mission to Lepers. Dr. Jean Alonzo Curran, president and dean of the Long Island College of Medicine, stated that the mixture of exaggerated fear, indifference and ignorance where leprosy is concerned has been one of the principal factors delaying an adequately organized attack on the foci where the disease has continued steadily to exist and spread. The anti-leprosy program will be a united offensive against one of the oldest and most challenging diseases known to man. The preventive portion of the program is of vital importance, and probably the greatest efforts will be directed toward India and China, each of which are estimated to have over a million cases of the disease at the present time. The war in the Far East has created a serious stoppage in medical care and rehabilitation and will probably cause many new cases of leprosy, according to Dr. Emory Ross, chairman of the committee.

CAMP
TRADE MARK

SUPPORTS
are standard for exacting anatomical needs



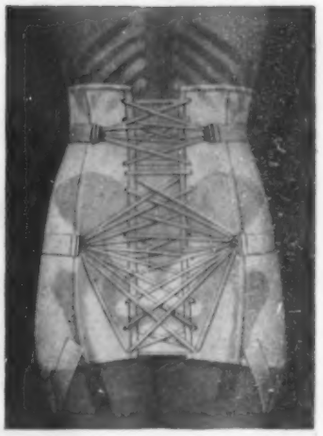
For over thirty years an increasing number of physicians and surgeons throughout the world have recognized the fundamental accomplishments in the design and construction of Camp Supports.

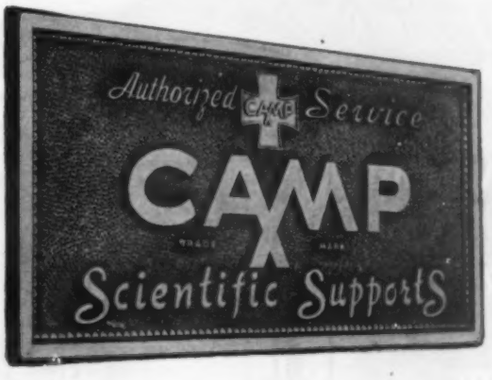
They are recommended and prescribed for Prenatal, Postnatal, Postoperative, Visceroptosis, Pendulous Abdomen, Orthopedic and other conditions.

No curative claims are ever made for Camp Supports. Their unique design and construction afford maximum help in providing adequate support of the abdomen without compression; ability to secure varying degrees of firmness about the pelvis; ample support of the spinal column without pressure upon any portion, and support of the gluteal region.

It is for these reasons that Camp Supports prove a scientific aid to the achievement of anatomical requirements which contribute to improvement of posture and physical fitness.

• Actual photograph of woman of average build with skeleton indrawn to help illustrate the steadying of the pelvis . . . a basic principle of Camp supports.





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I'm looking for your
DURA-GLOSS
nail polish
says Cupid

Want extra beauty and daintiness at your fingertips?... Dura-Gloss is the answer... a nail polish that brings out the hidden sparkle and loveliness of every woman's nails. Goes on so s-m-o-o-t-h-l-y... Dries so fast and completely... Stays on and on and on. Smart women, everywhere, keep Dura-Gloss always "on hand." ... 10¢, at your favorite cosmetic counter.

LORR LABORATORIES, PATERSON, N. J.
FOUNDED BY E. T. REYNOLDS

Cuticle Remover • Polish Remover • Dura-Coat

every day I find new uses for my Electresteem bottle warmer—vaporizer!

Medical Social Service

(Continued from page 105)

There are some who, in their professional enthusiasm, feel that medical social service has become a science in recent years and that the older form of relief, which it replaced, had too much of the charitable stigma about it. We hope that they are a vanishing minority, for we now know that the methods of science may be so applied in the field of charity that scientific results will be achieved at all times without ever giving the beneficiary the consciousness that he is being made the object of pity as a weak brother in society. Scientific methods properly applied do, indeed, require that the patient be treated in every respect as an equal. It stands to reason that such an attitude will improve the social worker's chances of success.

A good medical social worker is worth her weight in gold and rubies, for she combines within her personality a heart that beats for her so-called "clients" and a head that can plan wisely and constructively for them. She must be educated and specially trained for her work. Some medical social workers have risen to their present level from the nursing profession, where they experienced close contact with the sick and discovered in themselves aptitudes which could be applied to greater advantage. Those who had adequate educational requirements were able to go to school and learn the new technics of the work. While such an educational progression is favored by many, it is by no means essential, and we now find a medical social service career within the ambitions of many an intelligent young lady who moves forward into the field of medical social service with no other professional episodes on the way. The need is beyond doubt great, and the hospital executive may well hope that the supply of competent social workers will keep pace with it.

The sensibilities of the patient who must apply for the services of the medical social worker must always be considered. One of the most intriguing problems confronting this worker in hospitals, and one that is often handled thoughtlessly, is the depth to which the privacy of the patient may be sounded for public scrutiny. The good social worker carries with her, as a basic principle, the need for protecting the morale of her patient at a time when he must appeal for help in poverty, sickness, destitution or old age. Some one, somewhere, having exhausted his own strength to survive, appeals for aid from his more fortunate neighbors who, blessed with a reserve, have an excess to distribute in just such circumstances. But, when a person calls for help, except when driven by an overwhelming emergency, as in the case of a conflagration, when help is forthcoming as an

When Whooping Cough *keeps company with Death —*

In infancy—that's when whooping cough is especially dangerous. It's one of the major causes of death among babies under one year.

YOU *TREMBLE* for your baby's safety when infantile paralysis is mentioned. But what about *whooping cough? Far too many* mothers think whooping cough is "no cause for worry."

The truth is that whooping cough causes more *deaths* among babies under one year than infantile paralysis, diphtheria, scarlet fever and measles *all combined!* Besides, there's a risk of after-effects—nerve deafness, speech defects, and other disorders which might endanger your baby's normal development.

Fortunately, today little babies can be protected against this disease. Immunization usually either prevents whooping cough entirely, or makes it much less serious.

If your baby is six months of age, or older—and has not been immunized against whooping cough, consult your doctor immediately.

Don't delay—because your baby may be exposed to whooping cough at any moment. Your doctor will tell you whether your child should be immunized now—and he will give you an Immunization Record Card.

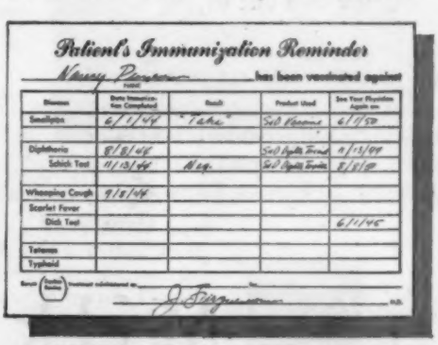
Immunization Record Card

With this Immunization Record Card, you can make sure *now* that your child—whatever his age—has *all* the immunization he needs for protection against preventable diseases.

This card shows you *what diseases* your child should be immunized against, and at *what ages*. It's your child's *Safety Card!*

This card may *Save Your Baby's Life!*

Don't trust your memory. Join the Mothers' Immunization Reminder Club, now totaling over 2,300,000 members. All you have to do is ask your doctor for an *Immunization Record Card*. This card will tell you *what* diseases your baby can be immunized against . . . and remind you when to take him back to the doctor for additional immunization or re-immunization.



Patient's Immunization Reminder

Nancy Pierson has been vaccinated against

Disease	Date Immunization Was Completed	Result	Product Used	See Your Physician Again on
Smallpox	6/1/44	"Take"	Sol Chrome	6/1/50
Diphtheria	8/8/44		Sol Diphtheria Toxoid	8/1/49
Schick Test	11/13/44	Neg.	Sol Diphtheria Toxoid	8/8/48
Whooping Cough	9/8/44			
Scarlet Fever				
Dick Test				6/1/46
Tetanus				
Typhoid				

Nurse (Doctor) Immunized by J. Ferguson M.D.

Ask your doctor for this record card today. Join the Mothers' Immunization Reminder Club.

Get this card *today!* Keep it where you will be sure to see it at least twice a year.

Sharp & Dohme supplies these cards to physicians free upon request. They are in two parts—one for the doctor's own records and one for you.

* * *

FREE! NEW BOOKLET. Gives facts every mother should know about preventable children's diseases . . . their special danger for babies . . . their harmful after-effects. Tells you how immunization can prevent them. A free copy of this booklet will be sent upon request.

Write to: Sharp & Dohme, Department H 2-5, Philadelphia 1, Pa.

Sharp & Dohme

Makers of Dried Blood Plasma—a development of Sharp & Dohme Research—as well as Sulfa Drugs . . . Vaccines . . . Antitoxins

They'll have to put the world together!

. . . so see that they're husky and fit

Today's youngsters face a challenge. It will be their job to fashion a brave new world out of the present jumbled pieces.

Wise parents are trying to make their children mentally and spiritually fit, to grasp the need. Physically fit, to carry out the plans.

In that vital matter of *balancing the diet*, they follow the advice of nutrition experts. And they pay special attention to *milk*, the children's prime essential.

Here Carnation Milk plays its trusted part. It's as nourishing and wholesome to drink *at any age* as when the doctor recommended it for babyhood. And it's simply delicious in all sorts of milk-rich cooked and frozen dishes.

Carnation is good whole milk with nothing removed but part of the natural water. It contains every valuable milk nutrient, plus the benefits of extra "sunshine" vitamin D. And it's sterilized for safety and digestibility—and homogenized, so the butterfat is evenly distributed and easily assimilated.

This famous milk is a blessing *any* child can claim! A vital food—doing a splendid job—like your precious War Bonds, mounting in value day by day. And proudly helping to build boys and girls who may make famous names of their own one day.

FREE! "CLEVER WAYS WITH CARNATION"

—a book of easy ways to cook better than ever—and give your family the milk-rich foods they need. Get these delicious, timely recipes. Address Carnation Co., Dept. 705A, Milwaukee 2, Wis., or Toronto, Ont.

Carnation Milk

"FROM CONTENTED COWS"

TUNE IN THE CARNATION "CONTENTED HOUR," MONDAY EVENINGS, NBC NETWORK

instinctive response, he must give reasons. From the giving of reasons it is a short step to the giving of evidence to prove the need, and the donor, or more frequently his agent, the social worker, feels obligated to place in the record every last detail that might justify the gift. The point is reached only too often where the very object of philanthropy is defeated for aid should be given by the strong to the weak as the right and privilege of a deserving recipient, because in this way alone, and not in penalizing him by exposing his intimate life to public view, is the health of the individual and the community protected.

Thus we find the social worker's office too often becoming converted into a sort of confessional, with the difference that no absolution is granted, while a careful record is made of the facts, the accuracy of which are checked at considerable cost by home visits, so that others may see adequate justification for this bit of philanthropy.

I recall an experience in prewar Paris at the time of the International Hospital Congress thirteen years ago, when I read a sign over the main entrance of a district maternity clinic where the municipality provided food twice a day to expectant mothers and to nursing mothers (no other identification being needed) as a contribution to the welfare of the community: "No Questions Asked." It is conceivable that the undeserving could get an occasional meal at the expense of those who were able to provide it, but the moral lesson was there for all the world to see.

Maximum use of the medical social worker is possible only when the social service department is a full-fledged administrative department within the hospital, having all the rights, privileges and immunities which are conferred on other departments. Adequate space, good equipment, a well considered and generous budget, participation in administrative and clinical conferences and a sympathetic administration—these are minimum requirements if a fair test of medical social service is to be made.

The tendency to consider the medical social service department as the "loose-change" department of the hospital must be controlled, for it breeds sloppy habits. It is too often the custom in hospitals to refer to the social service department any demand for nonmedical service which cannot or will not be furnished otherwise. When the doctor has tried his best and thinks that he has come to a dead end, so to speak, it is the medical social worker who must find other ways of extending help. There is nothing essentially wrong with such professional procedure—indeed it is often strongly to be desired—but the transfer of responsibility in this way often encourages such transfer without sufficient reason. In such a situation a

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the EXTRA PROTECTION

of this Anti-soggy, Waterproofed Brush!

ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION

Dr. West's Miracle-Tuft
The only brush with "EXTON" brand bristling

Beautiful sparkling teeth are *doubly* desirable. For they radiate charm . . . and reflect sound dental health! Vital to your health and charm is the *extra protection* given by Dr. West's Miracle-Tuft Toothbrush. Made with the remarkable anti-soggy, waterproofed "Exton" brand bristling, Dr. West's Miracle-Tuft cleans better, lasts longer than any ordinary brush. Its double convex shape reaches *all* the surfaces of your teeth. So throw out that limp, soggy toothbrush today. Discover the pleasure of a Dr. West's Miracle-Tuft!

Sealed in glass for added protection —*This famous toothbrush, outstanding at 50¢, also comes in the 2-Row "Professional" shape as well as the 2-Row "Oro" design, a shape many dentists recommend.*

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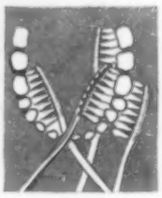
These "Extra Protection" Features make Miracle-Tuft the Toothbrush Second to None!

"EXTON" brand waterproofed bristling—the ONLY waterproofed anti-soggy bristle filament. Has greater strength. It cleans better . . . outlasts natural bristle.

Try to pull it out! Bristles won't split, break off or come out in your mouth. They're correctly spaced and their irregular shape is a big advantage in penetrating crevices.

Double convex shape —The original Dr. West's design. Conforms to all surfaces of the teeth. Reaches the hard-to-get-at places. Handle is streamlined for efficiency.



Not To Be Sneezed At

In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetic allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

Since in the light of present knowledge it is not possible, save in specific cases, to make non-allergenic cosmetics, we believe the cosmetic requirements of the allergic individual should be considered by her doctor in the light of the formulas and general characteristics of the products she is using or contemplates using.

Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetic requirements and aesthetic preferences. They are made available to you by Cosmetic Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

Luzier's, Inc., Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MO.

conference to determine where the obligation of one group ends and the other begins and to what extent the two can collaborate toward the same end is needed.

As in the case of the medical sciences, there is a strong educational factor in medical social service. This process begins with the hospital trustee and involves the hospital executive, the doctor, the nurse and every employee who comes near the patient, and it ends with the community at large. The medical social worker stands between the poor patient and his poverty. It is for her not only to assist in the cure but also to see to it that the results are made safe for her patient. She must be so strong in her faith that the personnel of the hospital will not hesitate to use her services, as an indication that they have seen her work and approved it. It is for the social worker to see to it that the sick among us are provided with every reasonable opportunity to recover from their illness and take their places again in the community. If the patient cannot, she must still remain active with his family to mitigate the evil effects of his failure to be cured and to prevent the loss of social and economic standing which is so often the result. The hospital and physician must understand that if they have not succeeded in providing full coverage for their patients medically, the social worker will step in and provide it somehow, for that is her mission and she must be true to it.

The medical social worker resembles the medical scientist in another important activity—namely, in the field of research. Apart from her favored position in securing the cooperation of patient and family in medical education and research projects, she must be constantly on the alert to discover and invent new ways and means of improving her technics. We now have a considerable literature on the subject, and, as it grows, the patient will be the beneficiary. There can be no doubt that we are asking a great deal of the medical social worker, but the fact remains that, in the best interests of the patient, we cannot ask for less.

NOTICE TO READERS

Because of wartime paper limitations on the number of copies, we must now know sooner than in the past how many expiring subscriptions are to be renewed. Therefore, we urgently request that you respond promptly to the first Renewal Notice you receive, with your instructions for future service plainly marked. This will assure the continued delivery of HYGEIA to you without delay.

Victor Clarence Vaughan

(Continued from page 119)

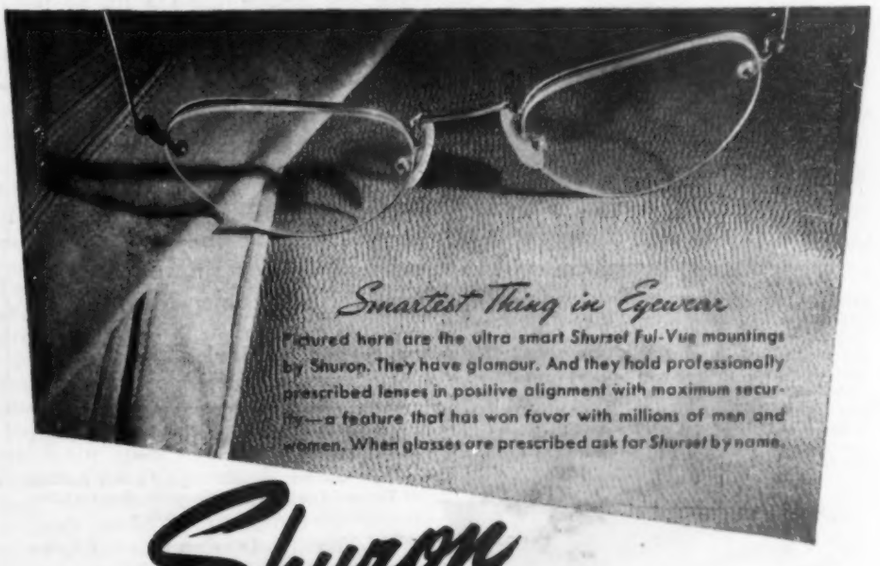
service. Prior to our declaration of war in 1917, Dr. Vaughan was a potent factor in the organization of the National Research Council to serve the scientific needs of the nation should war come. The medical needs were, of course, Dr. Vaughan's primary concern. From August 1917 to February 1919 Dr. Vaughan headed the communicable disease section of the Division of Sanitation in the Surgeon General's office. This office, to Dr. Vaughan, was no armchair-desk task. For this work Dr. Vaughan was given the Distinguished Service Medal with these words: "For exceptionally meritorious and conspicuous service."

During his long and exceedingly active life, Dr. Vaughan published some three hundred scientific articles and more than a dozen books, the last of the books being his autobiography: "A Doctor's Memories" (1926). Dr. Vaughan founded and edited the *Journal of Laboratory and Clinical Medicine*. He was the first editor of HYGEIA. He was the recipient of honorary degrees from many institutions. Though at times misunderstood, his own generation recognized his wise and potent leadership. In 1903, the twenty-fifth anniversary of the medical doctorate of Victor C. Vaughan, thirty-four of his colleagues and former students published a 620 page research volume in his honor.

These few words give the merest outlines of Victor Clarence Vaughan's beautiful life and great deeds. Let the staff of the Vaughan General Hospital assemble the record and read the record. If there be for you any spare moment in the service to the sick, in the struggle with the unknown, read "A Doctor's Memories," and I venture you will conclude, as did I: *There was a man!*

It is foreign to my nature to pass judgment where I am not in full possession of all the facts. I knew Dr. Vaughan intimately only during his last twenty-six years. Dr. Vaughan's service to science and to our nation covered more than fifty years. Forty years ago your speaker was a mere neophyte in the foothills of the medical sciences; Dr. Vaughan was then at, or nearly at, the pinnacle of his achievements. So I have checked with three leaders in American medicine, my seniors by many years: Drs. Ludvig Hektoen, James B. Herrick and William H. Howell. These men said in effect, "You are on the beam." The New York Academy of Medicine said: "Dr. Victor C. Vaughan was much beloved by his students and associates and recognized throughout the United States and abroad as one of the most prominent scientists in the medical profession." The Academy of Medicine of Richmond, Va., added: "No more distinguished physician ever lived in

A lonely heart is one thing. But there's another kind of loneliness that many people experience because of "visual isolation." As a result of subnormal vision, they go through life only half-seeing the world around them—passing friends unnoticed on the street, for instance. If your eyes need help, place your confidence in the professional man who has spent years in the study and practice of eye-care. He will prescribe the means for better vision.



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the commonwealth of Virginia. It is to be doubted if any other physician rendered more effective service in his time." All the men truly great in science and in service to their fellow men whom I have met have been great in industry, courage and humility. Dr. Vaughan earned membership in this group. He was as industrious as he was humble, because I think he perceived that we can do so little. We take so many futile steps because our knowledge is so scant.

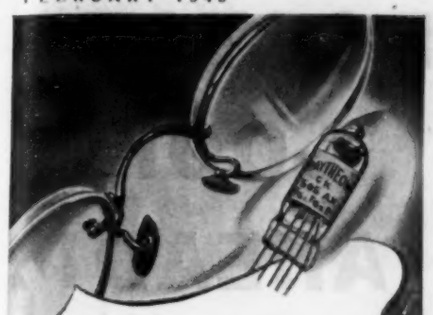
I call Victor Vaughan one of Mazarin's "fortunate men." Yet, three wars left their impressions, yes, their scars, on his life. When he was a lad of 12, his family in Missouri lost most of its worldly goods, and his father nearly lost his life, in our Civil War. But the lad, Victor Clarence, lost neither his nerve nor his milk of human kindness. In the Spanish-American War Dr. Vaughan escaped the Spanish bullets but not the more devastating yellow fever. Again in the Army with his five sons in World War I, the oldest son did not return.

I think you will agree, I think that history will prove me right, when I say: It is altogether fitting to dedicate this hospital to the challenging memory of Dr. Victor Clarence Vaughan. His many pupils still in harness, his few contemporaries still on the road to Lethe, his thousands of younger friends who try to keep in step with this giant among men—all these still sense the guidance of his clear and active mind, the cheer of his understanding smile, and the stirring challenge of his indefatigable labor. Even in this hour of the roar of battle and the moans of the maimed, those who stop to listen can still hear the Vaughan voice of wisdom: *"The duty that lies so plainly before us and the most exalted privilege that comes to man is to labor for the uplift of his race."*

CHARACTER BUILDING

No, my dear, you are not going
Out to play, because it's snowing.
No, my dear. Now please don't shout!
The snow is snowing, you can't go out.
And do not throw that ball in here.
No, you can't go out, my dear.
Mother told you why! It's wet.
Beat that drum more gently, pet.
Put the cat down, dear. That's better.
Mother's trying to write a letter.
Couldn't you go bother father?
Couldn't you go play with brother?
No, it isn't snowing less.
Can you go?—Oh, yes, I guess.

—Virginia Brasier.



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Parents' Test

(Continued from page 154)

I.

Go about your housework as usual, matter of fact and always buoyant. Whatever mother's fears you entertain in your heart, hide them from the younger children. Part of your home front duty is to keep war jitters from the children. Help them face the future with confidence and without fear. That is one of the things George is fighting for!

II.

Concentrate on one correction at a time. If you call attention to her many limitations, she may develop a feeling that she is "different," and lacking in something. Correcting one thing at a time will give her increasing self respect and a feeling that she "belongs." Patience and affection will do the trick.

III.

Feed the dog and explain why you can no longer keep the dog in the house. Promise to get James a pet in the pet shop. James' love for the dog is but a symbol of his love of humanity. Would you rather that he be cruel to animals? Get him a canary, a rabbit or pigeons, if James is old enough to take care of them. Whatever you do, don't frustrate James' love for animals.

IV.

Make the homework assignment an object lesson in safeguarding the home. Discuss the advisability of keeping matches in a safe place; of not having curtains near the flame of a stove; not going to the corner grocery store while some pots are on the stove; keeping sharp instruments and poisons, like iodine, in a definite spot and with clear markings. Bernice will not only have enough material to fill a composition, but she will have a clear picture of how to help safeguard the home.

FIREARMS ACCIDENTS

Careless parents are responsible for the accidental deaths by firearms of 500 children in the United States each year, according to the Metropolitan Life Insurance Company. Twenty per cent of all the persons accidentally shot each year are children, and most of the child accidents occur because loaded guns have been kept in easily accessible places. The rest of the young victims were accidentally shot while playing on the street, in open lots, in public buildings and other places, or while hunting. In most of these instances the wounds were self-inflicted or were caused by a gun in the hands of a young companion. Pistols and revolvers account for about half the deaths in the home and most of the fatalities occurring outside the home were caused by rifles or shotguns.

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WITH THE 3-POSITION BACK REST

NEW BOOKS ON HEALTH

Soldier to Civilian: Problems of Readjustment

By George K. Pratt, M.D. Price, $2.50. Pp. 233. New York: Whittlesey House, 1944.

We all know, or think we know, what happens to a man's physical equipment under the stresses and strains of military training and service. But most of us don't know, or prefer to overlook, what happens to what Dr. Pratt calls his "psychologic baggage" during the same period.

The danger lies in our ignorance of the psychologic changes that have occurred in our servicemen and of the readjustments that must be made when we try to fit them back into our families, communities and industries. Pratt has afforded a jumping-off point for avoidance of some of this danger.

As a practicing psychiatrist, Dr. Pratt knew better than to attempt a guide sheet for the solution of psychologic and psychiatric problems. In fact, he has outlined a good many more problems than solutions. Most, if not all, of the solutions to these problems must be made on a personal, individual basis, but an understanding of the problems that can and have developed in servicemen is essential to both physicians and laymen if satisfactory solutions are to be reached.

Dr. Pratt sets up the fact that our citizen-soldiers were all different individuals before they entered service, and then gives a sound general resumé of what happens to these men, from a psychologic standpoint, during service. He devotes a chapter to the medical problem of those who leave the service with actual psychiatric disabilities before discussing the problems "normal" veterans will face and create in readjusting to families, friends and employers.

The book could be very dull. It isn't. In some instances the doctor's point is almost lost in his rather successful effort to be interesting. He has made liberal use of interesting cases to illustrate his material and less judicious use of quotations from other, more technical authors—rather as though, at times, he was attempting to appease his colleagues rather than interest his general audience.

Any layman who has or will have contact with a returning serviceman or woman (and who won't?) can read Dr. Pratt with profit. So can most physicians.

WILL O'NEIL.

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IODINE
Foe of Infection

A Six Year Journey

A report showing the growth and development of the preschool program of the Cleveland Child Health Association. Paper. Free. Pp. 16. Cleveland: Cleveland Child Health Association.

The title of this pamphlet refers to a six year program of the Cleveland Child Health Association, not to the six years of life which include infancy and the preschool period. It refers to the fact that in 1937 the Cleveland Child Health Association began intensive work with preschool children. This program dealt with the health of the children entering kindergarten. Approximately fifty organized preschool centers had been discovered, of which some were institutions where parents paid liberally, while others were sponsored by settlement house organizations, churches or government. What the children got in these agencies varied from almost complete indifference beyond routine care to see that they were still there and uninjured when their parents came for them, to a rather high grade of service. The Association, therefore, organized a standards committee to define a good nursery school. Standards immediately began to rise. Some unsatisfactory centers were eliminated; others were helped to become better. The State Welfare Department began licensing centers. An information service was established where parents, social workers and other interested persons could find out all about existing centers. A model nursery school was established in the Lakeview Terrace Housing Estate. Assistance was offered to the Cleveland Metropolitan Housing Authority, and an organization was created in the Cleveland area to further nursery education. Group leadership was encouraged in cooperation with Girl Scouts, Y. W. C. A. and similar organizations. This is an interesting, informative and stimulating booklet. It is distinctly worth reading and heeding. W. W. Bauer, M.D.

Health and First Aid

By Morris Fishbein, M.D., and Leslie W. Irwin, Ph.D. Cloth. Pp. 372. Chicago: Lyons and Carnahan, 1944.

This book on health and first aid is intended for use in secondary schools. It is, therefore, written in a simple and straightforward manner, stressing essentials, eliminating extraneous matter and employing terms which are readily understood without an extensive medical vocabulary. The chapters are short. Each chapter is followed by a list of things to remember and some true-false test questions. There are many illustrations well calculated to appeal to young readers. The frontispiece is a happy family having a picnic by the side of a lovely stream, on which canoeists may be seen in the distance. In Chapter I are pictures of a woman wtih a cough sneezing into a handkerchief, nurses scrubbing up in the operating room and a doctor vaccinating a schoolboy. Part I is

having a BABY?

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devoted to principles of healthful living, set forth in twelve chapters which deal with avoiding infection, exercise and health, fatigue, sleep, good posture, bathing, clothing ventilation, teeth, skin, hair and nails, diet and digestion, tea, coffee, alcohol and tobacco.

Part II deals with first aid, also in a simple, clear and concise manner. There is an opening chapter on the importance of knowing first aid, followed by one on the body machine, with anatomic diagrams. The next chapter deals with shock, starting out with a definition and a description, a listing of symptoms and a statement of what first aid should be given. The list of things to remember and the "Test Yourself" questions follow, but each chapter in this section has an additional testing section entitled "What Would You Do?" in which the student is challenged with questions the answers to which have been set forth in the preceding paragraphs of the chapter.

W. W. Bauer, M.D.

Behavior Changes Resulting from a Study of Communicable Diseases

By John Urban, Ph.D. Cloth. Price, $1.85. Pp. 110. New York: Columbia University Bureau of Publications.

This is a study to determine whether or not the study of communicable diseases by high school students leads to changes in behavior on their part favorably related to the control of communicable diseases. Knowledge about communicable diseases was determined before and after such a course was given to a group of students, and behavior bearing on the spread of infection, such as nose picking, approximation of hands to face and proper use of handkerchief on coughing, was meticulously recorded before and after the course. Similar observations and tests of information were made with a control group. The not surprising conclusion arrived at is that students know more about infectious diseases after the course is taken, that their behavior related to the spread of infection is better, and that they retain their knowledge in appreciable degree, and their improved behavior as well, when retested after a period of twelve weeks.

While this study is undoubtedly of interest to the research worker interested in evaluating methods of teaching and effects of learning, to the reviewer it seems a belabored elaboration of the obvious. Two items of interest are the demonstration that the acquisition of knowledge does not mean that such knowledge will be reflected in behavior, and that home or parental attitudes often frustrate or nullify the effects of teaching in the school. These gloomy facts, however, already have been made repeatedly and painfully apparent to all parents and to most teachers. A corollary is the tremendous discrepancy between knowledge in public health measures and practices.

George J. Mohr, M.D.

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HEALTH IN THE HEADLINES

A BRITISH doctor who spent twenty-two years in colonial service and returned to England not long ago was astonished at the number of patients with duodenal ulcer, a condition which had been comparatively rare when he left. Seeking an explanation, he tried to think of some practice or habit of life which had grown from rarity to universality during the period of his absence. The thing he thought of was the cigaret habit, and now his theory that cigaret smoking has a place in the causation of ulcer is gaining support among his medical colleagues.

* * *

SHOOTING, stabbing, throttling and poisoning are likely to leave telltale marks on the victim's bones and upset the best-laid plans of murderers who have escaped detection for years after the grisly deed was done. Often, too, skeletal remains furnish positive evidence of the victim's identity—sometimes through the teeth, as every reader of mystery stories knows, sometimes through other means, such as a fracture or disease which has produced recognizable changes in the bones. Pathological examination of soft tissues and bones is considerably more exacting than detective fiction, however, and frequently the best science can do is establish the sex, approximate age and probable race of the victim. Even these may be only estimates based on comparisons of bony measurements with tables of averages worked out for men and women of all races at various ages.

This and other medicolegal lore is discussed by Dr. Frank R. Dutra of Boston in a recent article in the *Archives of Pathology*. Dr. Dutra, who probably could make a fortune by turning his records over to comic-book authors, embellishes his scientific data with illustrative case histories: "A charred body was recently found in a burning automobile near Boston," he relates matter-of-factly, beginning a hair-raising tale of laboratory sleuthing which resulted in the execution of a man and his son for brutal murder laid bare by half burned bones.

Careful killers might figure out a few of the points underlined in Dr. Dutra's article, such as the fact that shooting and stabbing almost always leave eloquent holes or nicks in one or several bones, or even that most fatal poisons deposit revealing traces in the bones. But this little secret is offered herewith as a precaution to prospective murderers and an inspiration to writers of whodunits: Throttling often results in fracture of the hyoid, a little bone at the base of the tongue. "Fracture of this bone from other causes is practically unknown," Dr. Dutra states, "so the presence of such a fracture is presumptive evidence of homicide."

* * *

OUTSIDE or wrapper leaves on a head of cabbage contain from one and a half to four times as much vitamins B_1, B_2 and C as the innermost leaves, scientists at the Vegetable Breeding Laboratory of the U. S. Department of Agriculture at Charleston, S. C., have discovered. This will come as a surprise to most housewives, since the wrapper leaves are usually discarded in the kitchen—if indeed they survive the grocer's critical ministrations made with an eye for appearance and sales. The vitamin content of the various layers of cabbage leaves was found to vary with the seasons, the total content being greater in the fall than in the spring and the variation from inside to outside diminishing as the weather gets cooler.

* * *

MOST people would be alarmed to find out that they were addicted to a drug which stimulates the cerebral cortex and causes wakefulness, restlessness, muscle tenseness, inability to concentrate and, in large doses, respiratory and circulatory stimulation and even delirium. These are the changes produced by caffeine, the drug found in coffee. Fortunately, the amount of the drug ordinarily consumed by coffee drinkers is so small that only the milder symptoms occur. Administered experimentally, larger and larger amounts produce increasingly severe effects, but, according to a recent medical report, "fatal poisoning is almost unknown." Coffee addicts who have tried to swear off but claim they feel better when they're drinking coffee will be glad to learn that there's a medical explanation for their reaction: A certain amount of tolerance to the drug is built up by the continued use of caffeine-containing beverages, doctors have found; in fact, its sudden withdrawal after long use may produce symptoms like headache. "Moderate use of beverages containing caffeine would not appear to be harmful," the report concludes. "Immoderate use probably impairs both mental and physical performance in the direction of inexactness and misjudgment."

* * *

CONTRARY to popular belief, hundreds of people in this country are a hundred years old or more and still get around as spry as you please. As a matter of fact, all our thinking about old age is muddied with facts which are no longer true and superstitions which were never true, according to Dr. Martin Gumpert of New York, who has just written a

book on the subject appropriately titled "You Are Younger Than You Think." The process of aging starts with the day of birth, Dr. Gumpert declares; partial decline and partial degeneration start during infancy. But, he hastens to add, at the same time partial growth and development continue throughout life.

Old people in good health form a great untapped reserve of manpower, the author believes, which we are prevented from using by the outworn belief that workers reach their peak at about 40. Another tragic error is the widespread notion that all aged people lose mental acuity. Actually, the average mental standard at 80 equals that of 35. The number of elderly people in our population is growing steadily, Dr. Gumpert warns in conclusion, and unless we stop treating them like living corpses our society is going to get badly out of adjustment.

* * *

IT DOESN'T pay to fool around when you get something in your eye, a recent survey of eye accidents made by the Greater Chicago Safety Council indicates sharply. One out of ten serious eye injuries is caused by bungling attempts to remove particles lodged in the eye, the survey showed. Flying chips and steel fragments, falls and careless use of wire, scissors and nails were also named among the leading eye hazards.

But don't read this to a group of your friends. "That's just propaganda," some one is sure to say. "Now the thing to do is, you take and wet a corner of your handkerchief, like this, see?"

—R. M. CUNNINGHAM JR.